DOCUMENT RESUME

ED 340 177 EC 300 827

AUTHOR Scheid, Karen
TITLE Effective Writing Instruction for Students with Learning Problems: The Instructional Methods Report Series.
INSTITUTION LINC Resources, Inc., Columbus, OH. Information Center for Special Education Media and Materials.
SPONS AGENCY Office of Special Education and Rehabilitative Services (ED), Washington, DC. Div. of Innovation and Development.
PUB DATE Mar 91
CONTRACT 300-86-0114
NOTE 74p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Educational Practices; Educational Trends; Elementary Secondary Education; *Instructional Effectiveness; Instructional Materials; *Learning Disabilities; *Learning Problems; Metacognition; Remedial Instruction; Teacher Role; Teaching Methods; *Writing (Composition); *Writing Instruction

ABSTRACT

This guide presents instructional practices recommended by participants at a June, 1990 forum of representatives of the higher education, school, and publishing communities which addressed issues in the teaching of writing to students with learning problems. Chapter 1 looks at composition instruction noting the status of writing in American education, current practices, and emerging trends. Chapter 2 examines theories of writing in subsections on: characteristics of good writers, components of writing, development of writing proficiencies, and instructional considerations. The nature of writing difficulties of these students and related research findings are examined in the third chapter. Chapter 4 describes three approaches to improving the writing of students with learning problems: self-instructional strategy development, cognitive strategy instruction, and process writing. Chapter 5 recommends components for a writing instruction program for these students and discusses what should be taught, how it should be taught, instructional techniques for promoting effective writing, and implications for media and materials. Chapter 6, on the role of the teacher, looks at teacher attitudes and knowledge, teacher education, and the supportive teaching environment. The concluding chapter identifies constraints to implementing effective writing instruction and future directions. Includes approximately 115 references. (DB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

THE INSTRUCTIONAL METHODS REPORT SERIES

ED240177

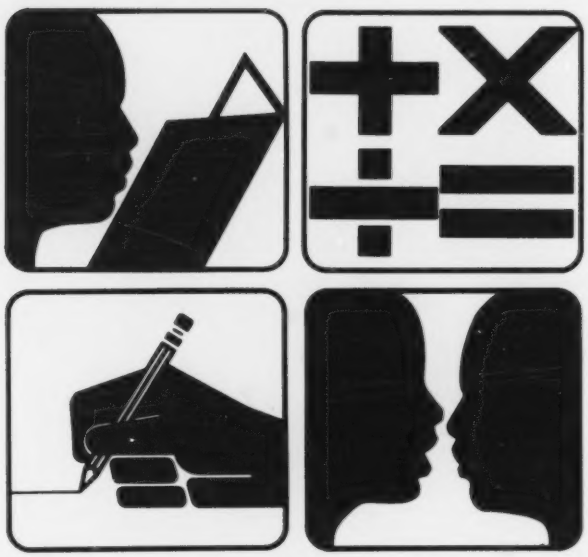
Effective Writing Instruction
for Students
with Learning Problems

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.



"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Karen Scheid

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EC 200827

Information Center
for SPECIAL EDUCATION MEDIA and MATERIALS

 BEST COPY AVAILABLE

Effective Writing Instruction for Students with Learning Problems

Prepared by

Karen Scheid
Research Specialist
Information Center for Special Education Media and Materials

March 1991

This document was prepared by LINC Resources, Inc., 4820 Indianola Avenue, Columbus, Ohio 43214, pursuant to contract 300-86-0114 with the U.S. Department of Education, Office of Special Education Programs. Contractors undertaking such projects under government sponsorship are encouraged to express their judgment freely in professional and technical matters. Points of view or opinions do not, therefore, necessarily reflect the position or policy of ED/OSEP and no official endorsement of these materials should be inferred.

PLEASE NOTE

Permission is granted to reproduce this document for use in professional, education-related activities. However, individuals planning to do so must complete and submit the "Report of Planned Use" form enclosed. For contractual purposes, the Information Center for Special Education Media and Materials needs to maintain records of the uses made of this report.

ACKNOWLEDGEMENTS

The author wishes to thank all of the participants of the 1989 Instructional Methods Forum sponsored by the Information Center for Special Education Media and Materials for their insights and opinions, which provided much of the content for this report. Special thanks are due to the following Forum participants who reviewed and critiqued the draft of this report: Karen Harris, University of Maryland; JoAnne Kovach, American Guidance Service; and Marjorie Montague, University of Miami.

Appreciation is extended to the United States Department of Education, Office of Special Education Programs, Division of Innovation and Development, for its financial sponsorship of the Information Center for Special Education Media and Materials and to Beatrice Birman, Chief of the Research and Development Projects Branch, and Doris Cargile, Educational Program Specialist, for their ongoing guidance, advice, and support.

Finally, Judy Bielanski and Linda Bater are due considerable thanks for their conscientious production and editorial assistance.

PREFACE

The Information Center for Special Education Media and Materials is a project of the United States Department of Education's Office of Special Education Programs. Housed at LINC Resources in Columbus, Ohio, the Center's mission is to increase the quality, availability and use of special education media and materials. Specifically, the Center hopes 1) to increase the quantity of media and materials that are designed according to instructional principles, which have proved to be effective with special education populations and 2) to identify ways in which these and other media and materials can best be used to further learning opportunities for children with disabilities.

We know that 90% or more of a student's classroom time is spent with media and materials, yet such materials are but one component of the instructional process. Learner characteristics, expected outcomes, teacher effectiveness, administrative support, the learning environment, educational philosophy, and instructional methods also contribute to positive or negative educational experiences. Any meaningful effort to improve media and materials must take place within the larger context of improvement of instruction. Therefore, the Center must pursue its goal by identifying instructional methods that are effective with students who have disabilities, investigating the factors that make these methods work in the classroom, and specifying the roles that media and materials can play to facilitate instruction via these methods.

The Center's role, then, is to provide leadership by focusing the attention of practitioners, publishers, and researchers on the major issues and questions related to improving the design and use of media and materials. Annually, the Center convenes members of the research, school, and publishing communities to think together, addressing identified issues and questions. Much of this current report is based on the perceptions and suggestions of the participants of the Center's third annual Instructional Methods Forum held in Washington, D.C. in June, 1990. The purpose of the 1990 Forum was to engage the attendees from the higher education, school, and publishing communities in conversations of general issues surrounding the teaching of writing to students with learning problems, to identify general characteristics of successful approaches, and to examine the role of media and materials in teaching writing. The Forum was successful in surfacing insightful and sometimes divergent opinions, which are reflected throughout this report. We at the Center believe that only through reliance on the wisdom and perspectives of all three communities can we hope to encourage refinement of promising methods, accelerate the incorporation of proved principles into instructional products, and foster the appropriate and effective use of these methods by classroom teachers.

CONTENTS

ACKNOWLEDGEMENTS
PREFACE

CHAPTER ONE: COMPOSITION INSTRUCTION--ITS STATUS IN THE EDUCATION OF STUDENTS WITH LEARNING PROBLEMS

Status of Writing in American Education 1
Current Practices 1
Emerging Trends 3

CHAPTER TWO: THEORIES OF WRITING

The Characteristics of Good Writers 5
Components of Writing 5
The Development of Writing Proficiencies 6
Instructional Considerations 7

CHAPTER THREE: WRITING DIFFICULTIES OF STUDENTS WITH LEARNING PROBLEMS

Nature of the Writing Difficulties of Students with Learning Problems 9
Research Findings 10

CHAPTER FOUR: APPROACHES TO IMPROVE THE WRITING CAPABILITIES OF STUDENTS WITH LEARNING PROBLEMS: THREE EXAMPLES

Self-Instructional Strategy Development 13
Cognitive Strategy Instruction in Writing 14
Process Writing 15
Which Approach Should Teachers Select? 17

CHAPTER FIVE: RECOMMENDED COMPONENTS FOR A WRITING INSTRUCTION PROGRAM FOR STUDENTS WITH LEARNING PROBLEMS

What Should Be Taught? 19
How Should Writing Be Taught? 22
Instructional Techniques for Promoting Effective Writing 24
Media and Materials Implications 30
Conclusion 33

CHAPTER SIX: THE ROLE OF THE TEACHER IN EFFECTIVE WRITING INSTRUCTION

Teacher Attitudes and Knowledge 37
Teacher Education 38
Supportive Teaching Environment 39

CHAPTER SEVEN: CONSIDERATIONS AND CONCLUSION

Constraints to Implementing Effective Writing Instruction 41
Future Directions 42
Conclusion 42

APPENDIX A 1990 Instructional Methods Forum Participants 45
APPENDIX B Sample Records from the ICSEMM Database 55
BIBLIOGRAPHY 59

CHAPTER ONE

COMPOSITION INSTRUCTION--ITS STATUS IN THE EDUCATION OF STUDENTS WITH LEARNING PROBLEMS

Status of Writing in American Education

Writing is perhaps one of the most multifaceted and complex of all human activities. It can serve as a means for sharing information, exploring thought, advocating ideas, solving problems, developing self awareness, and making public the creations of the imagination. The production of written language--the committing of word to paper--requires that the writer apply an array of abilities from the fine motor to the metacognitive. Unlike other forms of communication, such as speaking and listening, writing frequently is produced in the absence of direct human interaction or feedback (Bereiter & Scardamalia, 1982). Yet writers must be mindful of the motivations and informational needs of their audiences and must periodically evaluate their products in light of these perceived needs.

Within the context of schooling, written expression constitutes not only an area of study, but also a major vehicle by which students demonstrate what they have learned in numerous subject areas (Christenson et al., 1989; Graham, 1982; Harris & Graham, 1985). It is not surprising that improving students' writing is an oft-cited educational goal (Englert et al., 1988a).

But teaching students to write to communicate ideas and information and to express feelings, thoughts, and imagination is a difficult, complex, and necessarily time-consuming undertaking, as has been confirmed by results from studies such as the National Assessment of Educational Progress (NAEP). Analysis of fourth, eighth, and twelfth grade students' informative, persuasive, and narrative writing reveals that American students are some distance from realizing their full writing potential. No more than 47% of assessed students wrote adequate or better informative writings, no more than 36% wrote adequate or better persuasive writings, and on narrative writing tasks, no more than 56% wrote pieces judged adequate or better (Applebee et al., 1990). These results lead to the conclusion that students from all assessed grade levels are deficient in the knowledge necessary to perform well a variety of writing functions.

Students' attitudes toward writing also have been the subject of study. Children have been found to begin school with a positive attitude toward writing, which deteriorates steadily as they move through the grades (Applebee et al., 1986). Students' perceptions of how their teacher views their compositions also are disturbing. Young people report that teachers comment more frequently on writing mechanics such as spelling, punctuation, and grammar than on ideas. When teachers do so, students conclude that the content and thoughts expressed in their compositions are of little interest or value (Applebee et al., 1986).

Current Practices

The NAEP results are thought to be reflective of the predominant teaching practices in writing instruction. Little time is set aside in the curriculum for sustained writing, and typically the writing instruction that is provided emphasizes mechanics and grammar, not composition.

Several researchers have commented on the limited attention given to writing in American schools (e.g., Christenson et al., 1989; Isaacson, 1987; Langer & Applebee, 1986), and NAEP findings confirm that a large portion of American youth are not required to write very much. For example, 75% of eighth graders received less than an hour of writing instruction per week (Applebee et al., 1990). An earlier study by Hughes (1978) found that U.S. youth receive about 1 1/2 hours of writing instruction per week, but that amount pales in comparison to the 9 1/2 hours offered to students in the United Kingdom. Time spent on writing is clearly important, since a definite relationship has been shown between the frequency and quality of students' writing (Applebee et al., 1986; Applebee et al., 1990).

"...a definite relationship has been shown between the frequency and quality of students' writing."

All too often the writing activities that are pursued in American classrooms do not involve sustained writing. Applebee (1981), in a study conducted in the early 1980's, found that most school writing assignments required nothing more than the provision of short written answers such as a word or sentence. A later study by Bridge and Hiebert (1985) came to similar conclusions: i.e., the most frequent writing activities in the first, third and fifth grades involved transcribing such as filling in the blanks on worksheets or in workbooks, copying written material from the chalkboard, and listing and practicing spelling words.

Findings from the recent NAEP study confirm the paucity of extended writing assignments given to American youth. Nearly 50% of twelfth grade students stated that they averaged writing two or fewer reports or papers during the previous six weeks of school (Applebee et al., 1990). The study found that nearly two-thirds of eighth graders and three-fourths of twelfth graders answered *yearly or never* to the question: How often are papers of three or more pages in length assigned in social studies or history class? In contrast, shorter assignments of one or two paragraphs were reported more frequently: 47.1% of eighth graders and 36.3% of twelfth graders reported such assignments.

Clearly, teachers still give most emphasis to grammar and skill-based instruction when teaching writing (Applebee et al., 1990). Composition activities when they do occur in the classroom usually entail the production of a first and final draft of one page or less in length, which is written during a single class period (Langer & Applebee, 1986). And too often these writing assignments are confined to communication between students and teachers. Seldom are students asked to write for anyone other than the teacher (Bridge & Hiebert, 1985; Englert et al., 1988a). Techniques such as grouping students to pursue writing activities are infrequently used by teachers, according to the NAEP assessment. Less than one-third of eighth grade teachers reported that they organized students in pairs or small groups for writing purposes (Applebee et al., 1990).

Not surprisingly, composition instruction is emphasized even less in the instructional programs for young people with learning problems than it is for regular education students. Too often, students in need of special education are not provided with an environment that nurtures the development of their composition capabilities (Morocco, 1990) or that fosters language fluency through the provision of ample opportunities for talking, listening and reading (Sunstein, 1990). One study revealed that students with learning disabilities were engaged in writing activities for about 30 minutes a day, but 75% of that time was spent on transcribing types of activities (Leinhardt et al., 1980). Similar results of writing activities of mildly handicapped children in second through fifth graders were noted in a study by Christenson and her colleagues (1989).

"Seldom are students asked to write for anyone other than the teacher."

Writing instruction for students with learning problems tends to be dominated by a focus on mechanical aspects of writing: drill-type activities aimed at improving mechanical and transcription skills (Englert et al., 1988a; Graham et al., in press; Isaacson, 1987; Isaacson, 1989; Roit & McKenzie, 1985). This skill instruction frequently is taught in an isolated, disconnected manner (Graves, 1985; Morocco, 1990; Sunstein, 1990). Not surprisingly, less emphasis is placed on developing an understanding of the processes of

writing, and seldom is writing used as a means to foster understanding or as an aid in the learning of content such as social studies.

That writing instruction is less challenging for students perceived to be academically less able is substantiated by results of the NAEP study. Young people in classes identified as "low ability" were more likely than students in classes labeled as "high ability" to have teachers who reported giving short assignments and writing exercises that focused on the mechanics of written English (Applebee et al., 1990). According to the responses of eighth grade teachers, only one-half of the students in low-ability classes received writing process instruction, as compared to nearly two-thirds of students in high-ability classes, and only 44% of low-ability students were taught reading and writing in an integrated manner, as compared to 56% of students in classes labeled as high ability. Too, low-ability students were less likely to be placed in peer groups to work on writing. Eighth grade teachers reported that writing groups were used with only 27% of low-ability students, as compared to 39% for high-ability students (Applebee et al., 1990).

"Writing instruction tends to be dominated by a focus on mechanical aspects of writing...."

Several reasons can be offered for the current state of affairs of writing instruction for students with and without learning problems. Schools often do not place as much emphasis on the teaching of writing as they do on reading and mathematics (Graves, 1978). Effective writing instruction takes time, and the daily class load of teachers is heavy (Davis et al., 1987). Many teachers currently are not properly prepared to teach composition, do not frequently engage in writing themselves, and have little knowledge of effective methods for writing (Englert et al., 1988a; Graves, 1978; Graham, 1982). Some teachers may think that students with learning problems should not be required to engage in composition-related activities because of the difficulties these young people experience with writing tasks (Englert et al., 1988a). Other teachers may believe that students should be proficient in reading (Isaacson, 1987) or should have mastered skills such as spelling and handwriting before being introduced to more complex processes (Roit & McKenzie, 1985). The back-to-basics movement encouraged the belief that skills such as grammar, spelling, vocabulary, and penmanship are prerequisites for more advanced activities, a belief still held by many teachers (Graves, 1978).

Emerging Trends

Many educators agree that instruction that is dominated by a skill orientation is unlikely to guide students with learning problems or their nonhandicapped peers to becoming more effective, reflective, and thoughtful writers (Rhodes & Dudley-Marling, 1985). In recent years more attention has been paid to instructional approaches that treat the learning of writing as the complex, thought-engaging, social activity that it is. Instructional approaches have been developed that emphasize the processes involved in writing (Bos, 1988; Hull, 1989; Morocco, 1990), that encourage children to write in the lower grades before they become proficient readers (Scardamalia & Bereiter, 1985), and that incorporate writing conferences and peer writing groups into writing instruction (Scardamalia & Bereiter, 1985). Indeed, evidence of some change in how American teachers approach the teaching of writing may be found in the most recent NAEP assessment. Although 59.4% of the teachers questioned remarked that they still gave "very much" attention to grammar and skill-based instruction, nearly 52% also said that they stressed writing process instruction, and 66% of eighth grade teachers reported that during the three years before the assessment, they had increased the amount of time devoted to writing instruction (Applebee et al., 1990).

The above instructional trends are more evident in the teaching of regular education students than students with learning problems. However, there is a growing belief coupled with emerging research evidence that the writing deficiencies of many students with learning problems should be addressed through instruction that emphasizes the thinking, processes, and strategies involved with writing and that places less attention on grammar and mechanics (Englert et al., 1988a; Graham, 1982; Rhodes & Dudley-Marling, 1988). As Newcomer and her colleagues (Newcomer et al., 1988b) suggest, students in need of special education may benefit if writing is viewed as a means of developing thought and understanding, not just as a problem requiring

improvement. Thus many special educators are exploring more creative methods for teaching writing in hopes of helping these students overcome writing difficulties, acquire knowledge of behaviors that lead to more effective written communication, and understand the connection among writing, thinking, and learning.

The purpose of this report is to present an overview of some methods for writing instruction that emphasize the development of composition capabilities of young people in need of special education. Topics addressed include the writing problems observed among students with learning problems, theories of writing and writing development, examples of specific methods that have been successfully used in the classroom, the key components of composition instruction identified through research and practice, suggested ways media and materials may be supportive of composition instruction, and the role of teachers in instructing students in these methods. Before focusing on these issues, a brief overview of theories of effective writing will be presented in the next chapter.

CHAPTER TWO

THEORIES OF WRITING

The Characteristics of Good Writers

Many of the beliefs about what constitutes effective writing instruction are based upon observations and analyses of what good writers do when they compose. Effective writers view writing as a top down activity (Englert et al., 1988a). They set writing goals which they do not hesitate to adjust as they proceed through the processes involved in composing (Hayes & Flower, 1980).

When faced with the opportunity or need to compose, good writers think before they write (Bereiter & Scardamalia, 1987). They explore prospective writing topics by brainstorming mentally, orally, and with others, and they allow for many false starts (Isaacson, 1987; Morocco & Neuman, 1986). When setting their writing goals, good writers are aware of the questions different forms of writing are designed to answer and are aware of the usual structure that characterizes each writing genre (Englert et al., 1988a; Englert et al., 1988b; Morocco, 1990). Effective writers organize related ideas into categories (Englert & Raphael, 1988), apply a range of strategies, such as self-questioning, to help them develop their compositions (Morocco, 1990), revise frequently (Hull 1989; Isaacson, 1987), give careful consideration to the assumed needs and questions of their audience (Englert & Raphael 1988), and work toward the goal of satisfying audience informational needs even when the intended readers are not physically present (Graham & Harris, 1988b).

In summary, good writers not only have command of writing mechanics and the cognitive tools that help them know when and how to apply them properly (Englert, 1987), but they also employ and monitor an array of strategies as they plan what they are going to write, translate their thoughts into words, and rethink and revise their compositions.

Components of Writing

As the above portrait of a successful writer indicates, composing is a complex undertaking that demands attention to several factors and employment of numerous skills (Bereiter, 1980; Hillocks, 1987; Scardamalia, 1981). Stephen Isaacson (1989) has characterized composing as an interplay between secretarial and authoring functions. The secretary attends to the "rules" and mechanics involved with writing such as handwriting, spelling, punctuation, grammar and language use, while the author is concerned with the purpose or goal of the writing, the organization or structure for the to-be-produced product, audience needs, and, ultimately, the ability of the finished product to clearly communicate the writer's intent.

Hayes and Flower (1980, 1983, 1986) observe that the act of writing itself generally involves three subprocesses: 1) planning, 2) translating or drafting, and 3) reviewing or revising. Planning activities include selecting a topic, setting goals, identifying the audience for the writing,

anticipating audience needs, deciding on the form for the communication, generating ideas, and organizing information. The translation stage involves the transforming of ideas into words and then committing the words to paper. Rethinking of the content and organization of the composition and the subsequent revising and editing of it occur during the review stage (Hayes & Flower, 1980; Hayes & Flower, 1983; Morocco & Neuman, 1986).

"...good writers...employ an array of strategies as they plan...,rethink and revise their compositions."

While these subprocesses seem to flow logically and linearly one to another, in practice they are overlapping, interwoven, and recursive processes (Englert, 1987; Englert & Raphael, 1988; Hayes & Flower, 1980; Hayes & Flower, 1986; Hillocks, 1987). For example, a writer may revise a goal, draft a new section of a composition during the revision process, plan a revision strategy, and so on. This switching back and forth among processes, as well as the initial assessment of the demands of a writing task, are governed by the author's metacognitive or monitoring behavior, which is believed to be an essential component of good writing (Englert et al., 1988b; Hayes & Flower, 1980).

Besides utilizing an array of skills and processes and monitoring their use, a writer must call upon other stores of knowledge. Of course, familiarity with the subject or content of the to-be-produced composition is important, but so too is the author's comprehension of the goals of writing that govern different discourse forms and of the belief systems of the intended audiences (Stein, 1986).

Compositions can have various goals, such as informing, explaining, and persuading. The understanding of the purpose for a specific piece of writing obviously should influence what an author writes and how (Stein, 1986). A story, for example, usually contains such components as setting, beginning, reaction, goal, attempt, outcome, and ending (Fitzgerald et al., 1987). Knowing these components--the story grammar--serves as a guide for writing. Authors are similarly directed by knowledge of genre features when producing other forms of writing.

Awareness of what the intended readers know and think also must influence a writer's decisions. This knowledge, as Stein (1986) points out, often is difficult to obtain or anticipate, even for experienced writers.

Thus, writing entails the application of a variety of skills, processes and knowledge bases. It calls for numerous decisions to be made and much reflection prior to, during, and following the physical act of putting words on paper. Thoughtful writing is a problem-solving, constructive process that involves putting together ideas and changing thinking (Hayes & Flower, 1983; Morocco, 1990). Leading students to view writing from this perspective is a challenge that requires consideration of several factors, not the least of which are those relating to how children develop the capacity to write.

The Development of Writing Proficiencies

Becoming an effective, reflective writer is a long-term process that commences early in life in the home environment with basic language learning (Shook et al., 1989). While the rate of language development varies from child to child, specific factors facilitate language acquisition for most students, for example, living in a language-rich environment where they have an opportunity to speak and learn to listen; having a personal reason for needing to learn to speak; and receiving feedback about the adequacy of their communications (Rhodes & Dudley-Marling, 1988). With time, experience, and the proper environment, children become increasingly sophisticated at expressing themselves orally.

"...writing...calls for numerous decisions to be made prior to, during, and following...putting words on paper."

Similarly, acquiring a proficiency in written communication occurs over time. Writing development is characterized as a progression from conversation to knowledge telling, which is the writing down of whatever is known about a subject, to knowledge transforming, which involves goal setting, planning, problem solving, and the reprocessing and reworking of knowledge (Bereiter & Scardamalia, 1987). As with oral language, students learn to write in contexts that have meaning for them, and they learn to induce

the rules of written language as they are exposed to a variety of writings (Rhodes & Dudley-Marling, 1988).

Developing sophisticated writing capabilities entails several behavioral transitions. Students must move from communicating orally to communicating graphically, and from dependence on face-to-face encounters to consideration for the needs of a distant audience (Bereiter & Scardamalia, 1987). Further, they must acquire the ability to step back and critique their own writing, diagnose problems and make revisions (Bereiter & Scardamalia, 1987); plan their work and gain access to the knowledge that they possess about a subject (Bereiter & Scardamalia, 1987); and coordinate ideas at increasingly complex levels (Scardamalia, 1981).

"...instructional factors appear to be critical to determining whether students become proficient writers."

Normally, improvement in writing capability occurs in spurts throughout the years of schooling (Graham, 1982). So it is not surprising that older students exhibit more characteristics of good writers than do younger children (Englert et al., 1988c; Englert & Thomas, 1987; Knudson, 1989; McCutcheon, 1986; Shanahan, 1988; Thomas et al., 1987). The National Assessment of Educational Progress (NAEP) results demonstrate that writing ability improves between grades four and eight, and also between grades eight and eleven, although at a less dramatic rate (Applebee et al., 1986).

Studies investigating the use of writing subprocesses by students also point to increasingly sophisticated behavior with age and experience. For example, Bereiter and Scardamalia (1987) demonstrated that fifth graders, as compared to adults, do little planning prior to engaging in a writing assignment, nor is the length of time students spend in "start up" activities affected by the amount of time allowed for completion of the assignment. Adults, on the other hand, increase the amount of time devoted to prewriting activities as the amount of time allotted for an assignment increases (Bereiter & Scardamalia, 1987). In general, Bereiter and Scardamalia (1987) characterized younger writers as less goal-oriented and as producing written compositions that were characterized primarily as knowledge-telling.

While many developmental trends are evident in learning to write, it would be a mistake to conclude that writing behavior is totally or inevitably controlled by developmental factors. Some studies have shown that younger writers sometimes do possess characteristics thought to be associated with more mature writing behavior. For example, Graves (1983) found that children as young as six have an awareness of audience, and Stein and Trabasso (1982) determined that children were familiar with the structure of stories. However, research has also indicated that students who possess such knowledge do not always use it when writing (Bracewell, 1980), and the results of the NAEP studies cited in the last chapter indicate that many students do not naturally develop into effective writers (Applebee et al., 1990; Applebee et al., 1986). Thus, while developmental factors are related to an increasing capability to write well, they are not the only, nor perhaps even the most decisive, influences on writing behavior. If, as Scardamalia and Bereiter (1985) contend, children do not naturally go beyond the knowledge-telling form of communication (Scardamalia & Bereiter, 1985), then instructional factors appear to be critical to determining whether students become proficient writers.

Instructional Considerations

What instructional methods help students develop their writing capabilities? George Hillocks Jr. (1984, 1987) studied research of six different methods for teaching writing. The methods studied included grammar teaching; the use of models of good writing; sentence combining, which involves teaching students how to produce more complex sentences; use of scales or criteria to be applied to written compositions to judge them and determine parts of the writing in need of revision; freewriting, which is characterized by allowing students to choose the topics to write about and generally does not involve grading of writing products; and finally, inquiry methods, which concentrate on helping students learn strategies to help them transform raw data into meaningful communications.

Hillocks (1984; 1987) reports that grammar teaching had no effect on improving the quality of student writing; freewriting was more effective than teaching grammar, but less effective than the other methods; model use followed freewriting in effectiveness, and it in turn was followed by

sentence combining and use of scales. Inquiry techniques proved to be the most successful means for improving composing. Indeed, inquiry methods proved four times more effective than freewriting and two and one-half times more effective than use of models.

Hillocks (1984; 1987) concluded that while the less effective methods for teaching writing should not be entirely excluded from teaching, neither should they dominate writing instruction, since they do little to lead students to better writing behavior. It is Hillocks' opinion that instruction should pay more attention to methods that help students (a) to solve a wide variety of composing problems that are likely to be encountered and (b) to learn about procedures and strategies involved in composing.

A growing number of educators are questioning the effectiveness of prevalent teaching methods, which stress traditional grammar and skill-oriented instruction. These educators contend that instructional methods based upon what is known about writing processes and their development would instead emphasize the problem-solving nature of writing (Bereiter & Scardamalia, 1987; Hayes & Flower, 1980; Hull, 1989); provide students with a knowledge and understanding of writing processes and strategies (Bereiter & Scardamalia, 1987; Bos, 1988; Fitzgerald & Markham, 1987; Graham et al., 1987; Morocco et al., 1987); highlight the social nature of writing (Graham et al., in press; Hull 1989; Rhodes & Dudley-Marling, 1988); and underscore the importance of writing in facilitating learning, not just as a means of demonstrating what has been learned (Morocco, 1990; Yates, 1983).

To do instructional justice to the complex nature of writing demands a multifaceted teaching approach, one that nurtures students' writing abilities by attending to the many factors involved in effective writing. Before giving examples of some such approaches in Chapter Four, a discussion is presented of the writing difficulties commonly experienced by students in need of special education.

CHAPTER THREE

WRITING DIFFICULTIES OF STUDENTS WITH LEARNING PROBLEMS

Nature of the Writing Difficulties of Students with Learning Problems

The writing behaviors of students with learning problems vary greatly from those of good writers. Students in need of special education experience an array of difficulties with written communication ranging from problems with mechanics to those with implementing, monitoring, and controlling writing processes (Graham, 1982; Graham et al., in press; Morocco, 1990).

The writings of students who are mentally retarded, when compared to those of their nonhandicapped peers, have been found to include less diverse vocabulary and to contain more grammatical errors (Farley 1986; Sedlack & Cartwright, 1972) and spelling mistakes (Sedlack & Cartwright, 1972). The writing products of students with emotional and behavioral handicaps have been judged lower than nonhandicapped students' on measures of correctness, fluency and meaning (Myklebust, 1973). Young people with learning disabilities also have been shown to be hindered by problems with writing mechanics (Graham et al., in press; Graham 1990; Isaacson, 1989; Thomas et al., 1987). On standardized tests these students demonstrate difficulty with spelling, punctuation, and capitalization (Moran, 1981).

While mastery of writing mechanics in and of itself is not the sole or most important factor contributing to successful writing, lack of competence in this area can impede students as they attempt to write. It has been theorized that students who struggle with grammar rules, spelling, handwriting and punctuation expend much energy wrestling with these areas instead of thinking about content or processes (Flower & Hayes, 1981).

Expectedly, students in need of special education have difficulties with writing processes as well. These young people

- have problems generating ideas for written compositions and selecting topics (Morocco & Neuman, 1986; Stires, 1983);
- experience difficulty remembering and gaining access to information that they do have stored in their memory (Englert & Raphael, 1988; Morocco & Neuman, 1986; Thomas et al., 1987);
- do little planning prior to writing (Englert & Raphael, 1988; MacArthur & Graham, 1986; Morocco & Neuman, 1986);
- tend to engage in knowledge-telling--a writing down of whatever comes to mind (Englert & Raphael, 1988);
- focus on organizing words rather than the idea or overall structure of their writing (Englert & Raphael, 1988);
- do not engage in much revision, and when they do, it is at a simplistic and superficial level involving the change of an individual word or some punctuation as opposed to substantive modification of organization or ideas (MacArthur & Graham, 1986).

Some researchers point out that the writing

problems of students with learning problems seem exacerbated by a lack of working knowledge of or access to the purposes and organization of various forms of writing (Englert & Thomas, 1987; Graham & Harris, 1989b; Morocco, 1990). For example, Nodine and her colleagues (1985) found that students with learning problems lacked an understanding of story schema, i.e., the components that are usually found in a work of fiction. The researchers theorized that this deficiency contributed to these students' difficulties in producing stories. These students produced fewer and less fluent stories when compared to their non-learning-disabled and low achieving peers (Newcomer et al., 1988a). Indeed, many of these children's writings did not contain enough story elements to be categorized as stories (Barenbaum et al., 1987). Montague and her colleagues (1990) also determined that the narratives produced by young people with learning disabilities were chaotic, unorganized, and incomplete. MacArthur and Graham (1986) found that the stories written by students with learning disabilities included main and supporting characters, action, and endings but few incorporated explicit goals, starting events or emotional reactions.

Expository writing also has proven to be problematic for students with learning disabilities (Englert & Thomas, 1987; Nodine et al., 1985; Thomas et al., 1987). Generally, these students were insensitive to the purposes of exposi ory text, had difficulty generating ideas for their compositions, and failed to monitor their writing. The compositions that these students produced contained more redundancies, irrelevancies, and early terminations than those of normally achieving students (Thomas et al., 1987).

Several possible explanations for these writing difficulties have been offered. These include:

- a lack of proficiency in writing mechanics, which results in an interference in executing higher order writing skills (Graham & Harris, 1990);
- a lack of knowledge of writing processes or inability to access that knowledge (Graham & Harris, 1990);
- immature or ineffective use of strategies (Englert & Raphael, 1988; Graham & Harris, 1990; Morocco, 1990; Morocco & Neuman, 1986); and
- deficiencies in metacognitive behavior (Englert et al., 1988b; Walmsley, 1983).

Anxiety may also play a role in reducing students' writing capabilities. Research findings show that students with learning problems often can express their ideas orally when they are not able to do so in writing (Morocco & Neuman, 1986). Indeed, MacArthur and Graham (1986) found that dictated stories of students with learning disabilities were three times as long as the stories that they wrote.

"...students...often can express their ideas orally when they are not able to do so in writing."

The above overview of the writing problems experienced by students with learning problems points to several areas in need of instructional attention if these young people are to be helped to communicate more effectively in writing. While lack of proficiency with mechanical skills may hinder the ability to write, research confirms that knowledge, process, and strategy deficiencies also serve as barriers to effective writing. Consequently, instruction that mostly or only centers on mechanical and grammatical skills will not be sufficient to improve students' composing capabilities (Englert, 1987; Hillocks, 1987).

Special educators have begun to explore instructional methods that emphasize the teaching of processes and strategies utilized in composing (Englert & Raphael, 1988; Graham et al., 1987; Morocco, 1990); that acknowledge the social and emotional aspects of writing (Morocco, 1990); and that emphasize the place of writing in stimulating thinking and learning (Morocco, 1990). Can instructional methods that incorporate these emphases be successfully used with students in need of special education? In other words, are these young people able to improve their capabilities to produce written compositions?

Research Findings

Research conducted on the effectiveness of strategy instruction, as well as process approaches, provides evidence to support the contention that students with learning problems can become more reflective, thoughtful writers. Several research projects have focused on helping students overcome deficiencies in executing cognitive and metacognitive processes (Englert et al., 1988a;

Graham & Harris, 1987; Graves et al., in press). The intent of strategy instruction is to directly teach students the procedures and processes that they can use independently to better communicate in writing. Graham, Harris and their colleagues have developed instruction techniques for teaching students with learning problems strategies for

- generating, framing and planning argumentative essays (Graham & Harris, 1988a; 1989c);
- lengthening and improving the qualities of their stories by using a strategy to generate individual words such as action verbs, adverbs, and adjectives (Harris & Graham, 1985); and
- improving clarity and cohesiveness, adding relevant textual material, and correcting errors (Graham & MacArthur, 1988).

Englert and her colleagues (1988a) taught fourth and fifth graders with learning disabilities to sustain their writing, assume an informant's role, and improve the organization of their expository writing by teaching them organizational and thinking strategies for use in planning, drafting, editing and revising writing. This strategy instruction took place within a supportive writing environment in which students had an opportunity to write frequently and for sustained periods. This program also stressed peer collaboration and the student's informant role as a writer.

Other researchers have also met with success in improving students' writing by teaching procedures or strategies. For example, Graves, Montague, and Wong (in press) succeeded in helping students with learning disabilities to improve their story writing through use of cognitive and metacognitive supports, and Fitzgerald and her colleagues (1987) found that fourth graders identified as having a poorly developed sense of story structure could be taught story parts and could use this knowledge as a basis for organizing their stories. Strategies have been taught not only to facilitate writing processes, but also to help students improve their mechanical skills such as spelling (Englert et al., 1985; Graham & MacArthur, 1988).

Process approaches to writing instruction also have been successfully implemented with students in need of special education. Process approaches are typified by instructional practices such as topic selection by students, teacher-student writing conferences, skill-oriented information presented within the context (not separate from composition instruction), and student products publication (Stires, 1983).

As Bos (1988) points out, most of the reported research of process writing interventions has been descriptive in nature. Many of the reports of process research is presented in case study form describing how students with learning problems have improved their writing as a result of involvement in a process writing program (Atwell, 1988; Graves, 1985; Stires, 1988; Stires, 1989; Wansart, 1988). For example, Nancie Atwell (1988) describes the writing behavior of a student with learning disabilities who was mainstreamed into Atwell's eighth grade English class. The student had been identified at the beginning of second grade as having low average ability, short- and long-term memory deficits, low ability to organize and sequence information, and inferior spelling capabilities. Prior to her inclusion in Atwell's class, this student received one-half of her language arts instruction in a resource room setting, where she was introduced to process writing approach. For the remainder of her school day, the student was a part of a special class of low track students. As a member of Atwell's class, this student took part in the reading and writing program where she wrote daily. During the course of the year, this young student completed 21 pieces of writing in different genres and read 31 novels. Through illustrations of this student's writing, Atwell demonstrates how a process writing environment, provided over a period of years, can support students in developing sophisticated writing behavior.

"...students with learning problems respond favorably to instruction that is centered around processes of writing."

Wansart (1988) provides a similar example of a fourth grader with a learning disability who rarely spoke or wrote at the beginning of the school year, but as a result of her immersion in a classroom where the teacher used a writing process approach, she began to produce extended writing pieces. In addition, she began to generalize what she had learned abut writing without being prompted to do so.

According to Wansart (1988), the implications that can be drawn from case study research such as Atwell's and his own is that students with learning problems respond favorably to instruction

that is centered around processes of writing and that is built upon what these young people know rather than what they do not know.

Finally, Bos (1988) improved the writing behavior of fourth through sixth graders with learning problems by merging elements of a process approach with direct teaching of strategies. Writers increased the amount and quality of their prewriting planning, as well as the length and structural complexity of their writing, and improved in thematic maturity, vocabulary, overall coherence, and organization.

While more research needs to be conducted to determine how students with learning problems can best be helped to improve their writing, the research conducted to date points to the potential of strategy instruction, process approaches and combinations thereof to produce positive changes in students' writing behavior.

In the next chapter, some of the approaches that have been developed to teach the processes and strategies involved in the writing process to students with learning problems will be described in more detail.

CHAPTER FOUR

APPROACHES FOR IMPROVING THE WRITING CAPABILITIES OF STUDENTS WITH LEARNING PROBLEMS: THREE EXAMPLES

There is considerable agreement that traditional methods for teaching writing instruction that emphasize grammar and mechanics and give little attention to providing opportunities for sustained composition activities fall short of helping students with learning problems develop their capabilities to communicate in writing. The research summary presented in the previous chapter provides evidence that alternative approaches for teaching composition do have the potential to improve aspects of these students' writing. In this chapter, examples of three such instructional approaches are briefly described--Self-Instructional Strategy Development, Cognitive Strategy Instruction in Writing, and the process writing approach. The first two interventions, as their names indicate, focus on the direct teaching of strategies, while the last centers on the application of theories and practices that have evolved from the process writing movement. As is evident from the following descriptions, while these approaches all help students become more capable, reflective, thoughtful, and independent writers, they differ in the emphasis they place on specific instructional procedures.

Self-Instructional Strategy Development

The goal of strategy instruction in writing is to help students to become more independent learners by explicitly assisting them to develop processes and techniques used by good writers (Harris & Pressley, in press). Steve Graham and Karen Harris of the University of Maryland have developed and utilized a self-instructional strategy development approach (SISD) to teach students with learning problems an array of strategies and self-management routines to be employed when writing (Graham & Harris, 1987; Graham & Harris, 1989c; Graham et al., 1987; Harris & Graham, 1988).

Many of the writing strategies developed by Graham and Harris have focused on prewriting activities (Graham et al., in press). For example students have been taught strategies that focus on the following:

- **brainstorming ideas or words in advance of writing.** This strategy was found to be particularly useful because it gave students a means for searching their memory for relevant information prior to story writing (Graham et al., in press; Harris & Graham, 1985);
- **generating and organizing ideas before and during writing**. This strategy included a series of prompts that urged students to reflect on their purpose for writing, consider the intended audience, develop a plan, evaluate possible content through considering its impact on the reader, and continue the process of content generation and planning while writing (Graham & Harris, 1989c); and
- **planning their stories through asking a series of questions designed to prompt their thinking and thus assist in story planning** (Graham & Harris, 1989a).

The SISD approach also has been used successfully to teach strategies for use with other writing processes such as revision (Graham & MacArthur, 1988).

How Does SISD Proceed? Seven basic but recursive and flexible stages provide the structural frame for this approach. *Preskill development* involves developing skills students may be lacking that are necessary to understand, acquire and execute the strategy to be taught; an *initial conference* is held to establish instructional goals and the significance of the strategies and self-regulation abilities to be developed; *discussion of the strategy* includes considerations of the strategy, its purpose, strengths and limitations, and when and where to use it; *modeling the strategy* by the teacher or a peer is a key step in which use of the strategy is mastered; *mastery of the strategy* involves the student's learning of the strategy steps; *collaborative practice* comprises applying the strategy in scaffolded situations; and finally, *independent performance* is the step in which students are encouraged to use the strategy and self-instructions independently (Graham et al., 1987). The goal of this interactive instructional process is to aid the student who is having difficulty with writing to internalize, execute, modify when appropriate, and maintain use of the instructed strategies (Graham et al., in press).

Harris (1990) stress that students involved in SISD are not treated as passive recipients of instruction. Rather, they are expected to be active collaborators in determining the goals of their instruction, completing the task, evaluating the strategy and task performance, and planning for transfer and maintenance. Too, teachers utilizing SISD are expected to form a collaborative relationship with students. For SISD to be successful, the teacher must be responsive to each child and provide individually tailored feedback.

In recent years, SISD has been used by some special education teachers within programs that rely primarily on a process approach to writing (Danoff, 1990; Graham et al., in press). Within the process framework students write frequently and regularly, make decisions about their writing, share their work with other students and the teacher, receive responses to their work from teachers or other students, and confer with teachers. Teachers provide instruction to students in the cognitive processes that underlie writing during conferences and direct instruction. Typically teachers assist students in understanding the processes used in writing by modeling strategies and the thinking that accompany their use. While these procedures are thought valuable components in a writing program, Graham, Harris and their colleagues believed that students with learning disabilities need direct, structured instruction in *how to apply* writing processes and strategies (Graham et al., in press).

"...teachers assist students in understanding the processes used in writing by modeling strategies and the thinking that accompany their use."

Barbara Danoff (1990), a special education teacher, found that this was the case with the fourth and fifth graders she taught who were in need of special education. These students had been involved in a process-oriented writing program in their regular classroom for three to four years. As a result, they were very comfortable writing and wrote frequently. But, Danoff observed, these children still experienced difficulties frequently observed in students with learning problems. For example, they wrote stories that typically included only two or three of the common story elements. Danoff taught these children a strategy to help them remember to incorporate all seven common story elements in their pieces. Following their learning of the strategy, the students began to write stories with all seven story elements included, and their stories were judged to be of higher quality than the stories produced prior to strategy instruction.

Danoff (1990) instructed her students via a "plug-in" model where she worked with both normally achieving students and students who needed special education within the regular classroom. But strategy approaches also can be and have been used within resource room settings.

More information about the SISD program may be obtained by contacting Drs. Steve Graham and Karen Harris at the University of Maryland. (See Appendix A for contact information.)

Cognitive Strategy Instruction in Writing

Cognitive Strategy Instruction in Writing (CSIW), developed by Carol Sue Englert and her colleagues at Michigan State University, is

founded on two major beliefs: that the social context of writing should not be ignored during teaching, and that knowledge of text structure plays a key role in planning, organizing, drafting and revising compositions (Englert et al., 1988a). With respect to the former, it is believed that students should be made sensitive to audience concerns when writing. Similarly, the researchers think that knowledge of text structure can serve as the basis for producing a series of questions or strategies for use in guiding writing (Englert et al., 1988a). The intent of this program, then, is to instruct students in how to monitor and control strategies for planning, drafting, peer editing and revising compositions (Englert et al., 1988a).

How Is the CSIW Program Implemented? One of the first steps usually taken when implementing CSIW is for the teacher to present examples of both poorly and well-organized compositions within various writing genres. As teachers read the compositions to students, they ask key questions that good writers would ask as they write and revise. With this approach, the teacher models monitoring behavior and also illustrates how different kinds of writing are designed to answer different types of questions (Englert & Raphael, 1988). The teachers also model writing behaviors, such as how to decide what changes should be made in a composition during revision (Englert et al., 1988a).

"Teachers...ask key questions that good writers would ask as they write and revise."

Besides strategy modeling, the CSIW approach relies heavily on the use of "Think Sheets" to prompt students to think about their audience and the intended text structure as they organize and revise their texts (Englert & Raphael, 1988; Englert et al., 1988a). For example, the Think Sheet used during the planning of a composition prompts students to consider their purpose for writing the piece and their audience. Students are reminded to search their memory to identify what they know about the topic they have selected and are guided in grouping their ideas (Englert & Raphael, 1988; Englert et al., 1988a).

The Think Sheet prompting organized thought includes questions based on the specific type of composition being produced. For example, when writing a comparison and contrast essay, students are guided in determining *what* is being compared or contrasted, and with what results (Englert et al., 1988a; Englert & Raphael, 1988).

The editing Think Sheet provides checklists that help students judge the content and organization of their composition, and another Think Sheet is designed for use in a peer-editing situation (Englert & Raphael, 1988; Englert et al., 1988a). Finally, the Think Sheet for revision helps students focus on decisions to be made during that process, such as how to decide whether to make recommended changes (Englert et al., 1988a).

Englert and Raphael (1988) have identified several features that they believe are essential for the implementation of the CSIW program. They include:

- teacher modeling of strategies and the thinking that accompanies their use;
- student rehearsal of strategies and use of Think Sheets;
- interactive teaching and classroom dialogues about strategies and how problems encountered in writing may be addressed;
- gradual internalizing of strategies by students particularly through self and peer editing activities;
- group work used for peer coaching and cooperative learning; and
- monitoring of student thinking and of their use of strategies.

Although mechanics and grammar teaching are not emphasized in the CSIW, the teacher works with students in writing conferences to help them identify and correct spelling and grammatical errors in their compositions (Englert et al., 1988a).

Process Writing

The basic principles of process writing approaches emanated from a study conducted about ten years ago by Donald Graves and his associates at the University of New Hampshire (Graves, 1982). After observing six and nine year old students as they wrote, Graves (1982) formulated several hypotheses that have served to guide the development of process writing programs. He observed the following:

- behaviors of writers are highly variable, and until a writer writes or speaks, it is impossible for the teacher to know what to do instructionally;

- teachers need to observe clusters of behaviors before making decisions about a student's writing;
- scope and sequence of skill acquisition have little relevance to how writers develop;
- a conference approach to writing instruction is the best way to help students develop as writers;
- students should be given the opportunity for sustained writing in class and at predictable times;
- students should be allowed to select most of their writing topics; and
- skills are best taught within the context of the student's own writing.

Process writing programs depend on a high degree of teacher-student interaction. Graves (1985) believes that teachers teach most by sharing how they learn and that this instruction can best occur within an instructional environment that is highly structured and predictable (Graves, 1985).

How Is the Process Approach Implemented? A workshop type environment where students discover and act upon their own intentions and where the teaching of reading, writing and other language arts is integrated typifies process writing classrooms (Atwell, 1988). For example, Susan Stires (1988) reports that she designed her instruction for primary level students in need of special education to provide numerous opportunities for them to talk, question, and listen. Reading instruction was centered around children's literature. Students read to themselves and each other, and time was taken for students to discuss their reading with their classmates. Writing instruction complemented the reading program as students wrote daily about what they had read (Stires, 1983; 1988).

Instructional programs based upon process approach principles share several characteristics. First, adequate and predictable instructional time needs to be set aside for writing (Graves, 1985; Sunstein, 1990). Graves (1985) advises that teachers should teach writing at least four days a week, as compared to the national average of one day in eight. Taking enough time for writing is thought to be particularly important for students with learning problems.

Second, students' control of their own writing is instilled through practices such as allowing them to select the topics for their compositions (Graves, 1985; Sunstein, 1990; Wansart, 1988). Graves (1985) reminds that all children have important experiences and interests that they can use as the basis for their writing. Journal writing, where students record their thoughts daily, is frequently used as a way of encouraging children to think about topics they may write.

Third, a responsive environment for writing is essential for supporting children in their efforts to communicate through the written word (Graves, 1985). Responsiveness is conveyed through teacher-student conferences in which a teacher guides students' writing by being sensitive to their learning needs, asking questions about their writing, and providing comments and feedback on their ideas (Graves, 1985). Teachers model effective writing behavior, but such modeling usually occurs at the point and time that an individual student needs assistance with a particular point (Stires, 1990).

Fourth, in the process writing classroom, the social nature of writing is strongly emphasized (Graves, 1985; Wansart, 1988). Students share their writing with their classmates and in turn listen and learn from them (Graves, 1985; Sunstein, 1990). It is believed that a supportive environment assists students to take responsibility for their writing (Graves, 1985).

"...teachers and students become equal partners in the learning process."

Fifth, teachers and students become equal partners in the learning process (Sunstein, 1990). Teachers write along with their students, sharing their thinking about their own writing processes as they do (Graves, 1985; Stires, 1989).

Sixth, while teachers in the process writing program do not emphasize instruction in grammar, spelling, and mechanics, neither do they ignore the need for children to develop these proficiencies. But it is believed that skill instruction is best presented within the context of writing instruction and as a means of making writing clearer to the intended audience (Stires, 1990).

Stires (1989) stresses that although the individual teacher's guidance and involvement in authentic writing experiences can assist students to become better writers, the ultimate responsibility for writing must be placed on the writer. At all stages in the writing process,

students are expected to conduct self-evaluations (Stires, 1989).

While developed for use with regular education students, process writing programs have been used successfully in both resource room and regular classroom settings with students who are experiencing learning problems (Atwell, 1988). Susan Stires (1983; 1988) has remarked that her experiences teaching writing to children in need of special education have taught her that disabled writers are distinguishable from other student writers *only* to the degree to which certain parts of the writing process are difficult for them. She has come to see that all disabled writers have strengths (Stires, 1983).

In recent years, extensive efforts have been made to offer knowledge of and training in process writing approaches to teachers throughout the country. Workshops are offered by Graves and his colleagues at the University of New Hampshire, Lucy Calkins of Teacher's College, Columbia University, and through the National Writing Project headquartered at University of California at Berkeley (Graves 1985).

Which Approach Shot Teachers Select?

The preceding descriptions illustrate that the three approaches described share many but not all instructional principles. Most fundamental differences revolve around the means by which information about strategies, procedures, and processes should be presented to students in need of special education. Those who advocate a formal, structured approach to strategy teaching have been criticized by some educators who contend that strategy instruction casts students in a passive learning role and discounts the active role children must assume to become capable, proficient learners. Strategy instruction advocates strongly dispute this claim (Harris & Pressley, in press). Harris and Pressley (in press) insist that good strategy instruction does not involve having students memorize strategy steps or procedures in a meaningless way. They concede, however, that strategy instruction, as any method of instruction, can be poorly implemented by individuals who ignore essential principles such as placing students in an active learning mode, connecting new learning with what students already know, and scaffolding instruction, i.e., providing support to a student at the beginning of a learning task and then gradually removing it as students gain proficiency in the task. When properly taught, strategy instruction requires students to be actively involved in tasks that require understanding, meaningful processing, and the development of cognitive representations of new behaviors. As a result, students are empowered with knowledge that they can independently apply to a variety of learning situations (Harris & Pressley, in press).

"What appears to be advocated...is the infusion of strategy teaching into programs that are based on process writing principles."

Process writing approaches have been criticized by some educators who, while acknowledging that process writing can be beneficial in improving the quality of writing of students with learning problems, question the total reliance on this form of instruction for most students in need of special instruction (Englert et al., 1988a; Graham et al., in press). Graham and his colleagues (in press) observe that while process approaches may build students' confidence in their abilities to write and may help students improve their writing over time, these approaches usually do not lead to rapid gains in performance. Further, it is not clear that the process approach will lead to proficiency in all the types of writing tasks students face in school, or that it is suitable for use with students who are severely handicapped.

Englert and her colleagues (1988a) remark that while daily writing, sustained writing, student assumption of an informant status, and peer collaboration should be fundamental and necessary components of writing programs, they are not sufficient to develop the expository writing skills of students with learning problems. These students need to learn to monitor and control specific organizational and thinking strategies for planning, drafting, peer editing and revising. What appears to be advocated by researchers who have studied the use of strategies with such students is the infusion of strategy teaching into programs that are based primarily on process writing principles. Doing so would provide young people with the assistance they need to help overcome specific areas of difficulties within an environment that treats writing as an active, thinking, social process.

Clearly, much can be learned from both

strategy and process approaches about how to design a writing program that more effectively meets the needs of students with learning problems than do traditional mechanics- and grammar-oriented programs. Those contemplating adopting more effective methods for writing instruction would be well advised to give consideration to both strategy- and process-oriented methods. Which approach or what combination thereof may be most suitable for use will depend upon the particular learning needs of the students to be taught, the environment in which instruction will take place, and the attitudes, knowledge and beliefs of teachers to be involved in instruction.

Although strategy and process programs differ *in the instructional procedures they emphasize,* they both are built upon beliefs that composition instruction should be the main focus of the educational programs of students in need of special education, that students need to be active participants in the learning process, and that they should be empowered with the knowledge and understanding of the processes underlying effective writing communication.

In the next chapter, recommendations for components of an effective writing instruction program will be discussed. These recommendations serve as points for consideration and guidance to educators who are contemplating the establishment of writing programs that place greater emphasis on composition instruction.

CHAPTER FIVE

RECOMMENDED COMPONENTS FOR A WRITING INSTRUCTION PROGRAM FOR STUDENTS WITH LEARNING PROBLEMS

Recommendations for components of an instructional program that is intended to help students become more reflective, thoughtful writers have emerged in recent years from research on and classroom practice of such approaches as strategy instruction and process writing. These recommendations cluster into two categories: those that address what is believed to be appropriate content for instruction, and those that discuss how instruction should be presented.

Several of the curricular and instructional suggestions offered in this chapter have implications for how media and materials should be designed and used to support effective writing instruction for students in need of special education. Therefore this chapter contains a discussion of the ways media and material design and use may facilitate the teaching of composition. It is hoped that the ideas provided in this chapter will help school district personnel to determine which resources may be most supportive of the principles of writing instruction discussed in this chapter.

What Should Be Taught?

The complexity of writing requires that instruction be wide-ranging. Discussed below are some of the components thought to be important in a comprehensive approach to teaching writing to students in need of special education.

Teach Students the Purposes, Processes, Procedures and Strategies Involved with Writing. The purposes of writing need to be made explicit (Graham & Harris, 1988b; Thomas et al., 1987). Students must come to understand that writing involves setting goals, formulating problems, searching memory for relevant information, and evaluating decisions (Bereiter & Scardamalia, 1987; Graham et al., in press; Scardamalia & Bereiter, 1985).

Teachers need to motivate students to develop a concern for the needs of their audience. In other words, students must learn to understand authorship: the need to produce clear, meaningful communications (Isaacson, 1987; Roit & McKenzie, 1985). Young people must come to understand that good writing is not a mindless activity, but rather an active, exploratory process which requires thinking about and organizing thoughts (Roit & Mckenzie, 1985). The good writer thinks about the processes involved in writing (Englert & Raphael, 1988); contemplates what he or she is going to write (Isaacson, 1988); devises methods for solving problems that occur throughout the composing process (Shanahan, 1988); and uses writing as a means of clarifying thoughts (Langer & Applebee, 1986).

However, understanding the nature of writing, its purposes, and its processes, while important, is not always sufficient to produce good writing, particularly among students with learning problems. Many of these students need to be directly taught *how to apply* their knowledge when composing. Thus, writing instruction must also include attempts to enlighten students about

the procedures and strategies that can assist them to manage the complex demands of writing (Englert & Raphael, 1988; Graham et al., in press; Isaacson, 1987; Morocco et al., 1987).

Procedural facilitators used to prompt students to consider specific questions or processes are one means for promoting knowledge about and use of processes (Bereiter & Scardamalia, 1987; Scardamalia & Bereiter, 1985; Scardamalia & Bereiter, 1986). The "Think Sheets" used in the Cognitive Strategy Instruction in Writing Program described in Chapter Four are examples of procedural prompts. Students also can be instructed in use of procedures such as mapping. Mapping or webbing is a technique for visually representing the relationships among main and supporting ideas (Morocco, 1990). Such a technique can help students think through their topic for writing and generate ideas.

The example below illustrates a web or map a child may construct as he or she thinks about what information to include in a composition about sights and sounds encountered on a walk in the woods.

Self-instructional strategies also can assist young people to be more effective writers (Isaacson, 1990). As mentioned in Chapter Four, the intent of strategy instruction is to help students assume responsibility for their writing by applying and monitoring the use of the strategies (Graham et al., in press; Isaacson, 1989). Strategies are intended to reduce the cognitive demands involved in the composing process (Graham, 1982; Graham & Harris, 1987). They usually contain a small number of components or steps that can be easily mastered. Thus, strategies help young people effectively organize an approach to and carry through a writing assignment (Englert et al., 1988a; Langer & Applebee, 1986).

Generally strategies are designed to meet the specific demands of a task (Graham et al., in press; Seidenberg, 1989). For example, strategies can help students search through their memory and generate content (Graham & Harris, 1989a; Graham et al., in press; Harris & Graham, 1987) and edit and revise text (Graham et al., in press; Graham & MacArthur, 1988).

Graham & MacArthur (1988) provide an example of one strategy that may be used by students to revise essays. While this strategy was developed for application in a project that studied the effects of word processor use on revision activity, it may be applied in non-word-processor applications as well. The strategy steps are as follows:

- read your essay;
- find the sentence that tells what you believe and ask, "Is it clear?";
- add two reasons why you believe it;
- scan each sentence to determine if it makes sense and is connected to your beliefs, to determine if more information can be added, and to note errors;
- make changes; and
- reread the essay and make final changes.

Another example is a strategy developed by Graham and Harris (1989a) for use in story writing. A visual prompt is used with this strategy, which contains the following steps:

- Look at the picture;
- Let your mind be free;
- Write down story part reminders such as
  - who is the main character and who else is in the story,
  - when does the story take place,
  - where does the story take place,
  - what does the main character do,
  - what happens when he or she tries to do it,
  - how does the story end, and
  - how does the main character feel;
- Write down story part ideas for each part; and
- Write the story.

Atwell (1984) agrees that students can be helped to apply their knowledge of writing processes by self-conferencing: in other words, asking questions about what they are doing. Atwell suggests that when writing a story, students ask themselves questions about whether they have included enough or too little information, the effectiveness of the beginning and ending of their composition, and the suitability of the title and the style of writing used. Some examples of the questions suggested by Atwell are, "Have I told where, when and with whom this is happening?"; "What parts are not needed?"; "Does the beginning of the story bring the reader into the action?"; "Does the ending leave the readers with the feeling intended?"; "Does the title fit the story?"; and, "Are any sentences too long, too short, or chopped up?" (Atwell, 1984).

"...strategy instruction must not occur in isolation, outside the context of writing instruction in general."

Procedural facilitators and strategies such as those discussed above can be helpful in assisting students to overcome specific problems with writing or to generally actualize their knowledge of processes involved with writing. The teacher needs to remember when teaching strategies and procedures that control must gradually pass to the student. Too, strategy instruction must not occur in isolation, outside the context of writing instruction in general (Morocco, 1990).

Teach about the Different Forms of Writing and Their Goals. Each type of writing has its own structure. It is thought important that students know the common components usually found in different genres and understand their purposes (Englert et al., 1988a; Hillocks, 1987; Stein, 1986). Further, as Morocco (1990) reminds, writing strategies and procedures must necessarily be taught within the context of the genre to which they apply.

Teachers need to provide students with ample opportunities to produce various types of writing (Shanahan, 1988) and to instruct them in techniques used to produce various genres. For example, activities suggested by Fitzgerald and her colleagues (1987) for teaching students the parts that compose a story (i.e., setting, beginning, reaction, goal, attempt, outcome, and ending) include:

- having students produce cumulative stories, where one child writes one part of a story, another student writes the next part, and so on;
- using a template on which appears a setting written across the top and headings for the story parts to be written by students;
- presenting to students for their elaboration simple, well-formed stories with only one or two sentences written for each part; and
- having students supply missing parts to stories.

Approach the Teaching of Mechanics, Grammar, and Handwriting Sensibly. While it is generally agreed that an undo emphasis on grammar does not improve composition (Brennan, 1988; Hillocks, 1987; Graham et al., in press; Isaacson, 1987; Morocco et al., 1987; Rhodes & Dudley-Marling, 1988), totally ignoring mechanics and grammar is not wise either (Graham et al.,in press; Isaacson, 1987; Isaacson, 1989; Isaacson, 1990). Failure to develop proficiency and fluency in such skills may impede students' writing in several ways (MacArthur & Graham 1987).

Ideally, grammar and mechanics should be taught indirectly, as an integral, purposeful part of real writing activity (Graham & Harris, 1988b; Graham et al., in press; Hillocks, 1987; Isaacson, 1987; Morocco et al., 1987; Stires, 1990). When doing so, teachers can stress the importance of standard forms of communication in aiding readers to understand what has been written (Rhodes & Dudley-Marling, 1988). Too, seeing grammar and writing mechanics properly used in the material that they read is believed to be one of the best ways for students to learn the importance of proper usage of words and punctuation (Rhodes & Dudley-Marling, 1988).

Graves (1983) has stressed the need for the teacher to be judicious when attempting to correct students' mechanics, such as spelling, during instruction that is aimed primarily at helping students develop their capabilities to express thoughts and feelings. In particular, he points out that the following practices should be avoided

- marking spelling errors on first drafts;
- providing help that is not in context of improving the writing work;
- not placing primary focus on the content of the writing or audiences needs; and
- offering little opportunity to write.

Some special educators believe that students with learning problems should be given more

direct and intense instruction in skills such as spelling, punctuation, and handwriting and that such instruction should be in addition to that offered during the teaching of composition (Graham, 1982; Graham et al., in press; Isaacson, 1987).

Suggested methods for teaching spelling include giving students lists of words to be learned, pretesting words to be learned, focusing instruction on those words that the student has missed, instructing students in procedures for studying unknown words, having students correct their spelling tests with the teacher's direction, concentrating on learning words that are most likely to be used in students' present and future writing, and finally, using spelling games (Graham et al., in press).

Graham and his colleagues (in press) suggest that the typical weekly approaches used in teaching spelling--i.e., giving students words, pretesting, using words in sentences, practicing phonic skills, concentrating on the words which are difficult for the student, and then final testing--be modified so as to include practices that are more effective for students with learning problems. For example, these students should be given words that contain common features. Further, words should be presented, practiced, and tested daily (Gettinger et al., 1982; Graham et al., in press; Rieth et al., 1974).

"...it is particularly important that teachers create a classroom atmosphere conducive to exploration...."

How should students be guided in their self-study of spelling words? Graham and his colleagues (in press) urge teachers to have students form visual images as well as trace and sound out words; incorporate games and other practice activities; and make use of peer tutoring and cooperative learning for practice and testing.

Teachers are urged to follow proven practices for teaching handwriting as well (Graham et al., in press). Such practices include teacher modeling of the formation of letters; comparing and contrasting features of the target letter with other letters that share common formational characteristics; using prompts and cues either visual or physical, to help guide students in the making of letters; practicing letter formation by tracing, copying and then writing without these aids; providing feedback and praise; correcting wrongly formed letters through the help of the teacher; encouraging students to self-evaluate their handwriting; and creating charts for graphing progress by students (Graham & Miller, 1980).

Graham and his colleagues (in press) suggest that teachers help students remedy handwriting problems by concentrating on correcting common errors such as the malformation of letters a, e, r, and t. Correcting such errors may result in considerable improvement with minimal effort. Teachers must remember when teaching handwriting that student capabilities develop gradually (Graham et al., in press) and, according to Graves (1983), students' handwriting improves as their opportunities to write about topics of interest to them increase.

How Should Writing Be Taught?

Create a Supportive Environment. A supportive environment contributes to learning within any subject area. Because writing is such a complex undertaking, it is particularly important that teachers create a classroom atmosphere conducive to the exploration, risk taking, and creativity that accompanies learning to write. Attention to creating a nonthreatening environment that allows students to develop their potential at their own pace and supports and motivates them while doing so is especially important for students who have experienced learning difficulties and who may have a negative attitude toward writing (Graves, 1985; Isaacson, 1987; Roit & McKenzie, 1985). Similarly, the instructional techniques selected to teach writing must be compatible with and reflect the intended goals of instruction. Discussed below are suggestions thought to be important elements of such a secure, predictable writing environment and believed to support the teaching of the content discussed in the preceding section.

Take Enough Time for Writing. Children learn to write by writing, so it is widely believed that an opportunity for frequent writing is a necessary component of any writing program (Bos, 1988; Brennan, 1988; Englert et al., 1988a; Graham & Harris, 1988b; Graves, 1985; Isaacson, 1990; Shook et al., 1989; Sunstein, 1990; Thomas et al., 1987; Wansart, 1988).

How much time should be set aside for writing? Many believe that students should be required to write at least four days a week (Englert et al., 1988a; Graham et al., in press;

Graves, 1985; Isaacson, 1988; Rhodes & Dudley-Marling, 1988). The major portion of writing instruction time should be devoted to the sustained writing assignments that allow students the opportunity to develop their ideas and to explore and reflect on what they know, not on short writing activities or worksheet tasks (Englert, et al., 1988a; Thomas et al., 1987).

Journal writing, particularly when it is done daily, is an example of a sustained writing activity that helps students learn to commit their thoughts to print and to become more fluent in their written expression (Graves, 1985; Rhodes & Dudley-Marling, 1988). Teachers desiring to incorporate journal writing into their instructional program may need to provide students with guidance in how to express their thoughts and ideas. Initially, topic selection may be problematic for students who have heretofore done little writing. Thus, teachers may need to offer advice on how to use techniques such as brainstorming to help identify topics about which to write. Too, providing expectations for the time that should be devoted to the activity (e.g., fifteen minutes) and for the length of journal entries (one-half to one page) also help journal writing proceed more smoothly (Rhodes & Dudley-Marling, 1988).

Make Writing an Authentic Activity. Too often writing is taught as an end in itself--undertaken only to fulfill a school assignment or to demonstrate learning. Students need to be led to see how writing is pursued to fulfill a range of purposes, formal and informal, from expressing ideas, opinions, and feelings to providing information and direction. As a part of their instruction, students need to be exposed to a broad range of composing tasks that center on writing for "real" purposes (Fear & Fox, 1990; Graham, 1982). Writing letters to public or school officials or to friends; producing reviews of movies, audio recordings or television programs for publication in a class or school-wide newsletter; generating in-depth reports focusing on school, local, or national issues of importance to students are a few examples of such writing activities. Teachers should note that writing activities need not be confined to language arts instruction, but rather could and should be incorporated into instruction in a variety of subject areas, as will be discussed in more detail later (Yates, 1983).

Establishing Ownership. Motivation to write increases when students have a sense of ownership or personal involvement in and control over their efforts (Bos, 1988; Calkins, 1983; Kirby et al., 1988; Langer & Applebee, 1986; Wansart, 1988). Having students select topics for writing in which they have an interest and perhaps some knowledge is one method to motivate students to become involved in their creations (Bos, 1988; Graham et al., in press; Stires, 1983; Sunstein, 1990).

Create an Audience for Writing. Writing is a communicative, social act (Graham et al., in press; Graves, 1985; Morocco, 1990). Too often, though, instruction fixates on the private nature of the writing act and ignores the contribution of social interaction in aiding students to develop fluency and understanding. Students who write in isolation often remain ignorant of the social nature of writing and of its ultimate purpose: to communicate. They seldom develop the sense of audience that is essential for the production of a variety of written communications.

"Too often, instruction fixates on the private nature of the writing act...."

Children need to learn to see themselves as informants, as individuals who have something to say or report that is unknown to others (Englert et al 1988a; Raphael et al., 1986). Unfortunately, students seldom see themselves in this light. School writing instruction frequently identifies the teacher as the chief, and in many cases the only, audience for written products. Students tend to believe that the teacher represents a knowledgeable audience, someone who knows as much or more about the subject of their writings as they do. Students who write only for the teacher often produce compositions that are superficial and devoid of details needed for a less knowledgeable audience (Englert et al., 1988a). Students develop a sense of audience and learn to see themselves as informants who must be concerned with the needs of readers as they write for a variety of audiences (Bos, 1988; Graves, 1985; Morocco, 1990; Rhodes & Dudley-Marling, 1988; Shanahan, 1988; Thomas, 1987 et al.; Yates, 1983).

Within a class, compositions can be shared informally with classmates in a large group or as a part of a writing group. Bos (1988) offers the following suggestion for a sharing activity to be tried in a group setting: Have one student read his or her composition out loud; next, have another group member retell what he or she has

"heard." This simple activity provides the author with an idea of how other students perceive his or her work, and by so doing, help the writer develop an understanding of audience perceptions.

More formal approaches to sharing writing include publishing student writings in newsletters, class magazines, books or yearbooks (Graham et al., in press; Graves, 1983; Isaacson, 1990; Stires, 1983). Graves (1983) points out that besides contributing to a sense of audience, publishing helps writers acquire a perception of time. When students start to write, they do not have a sense of the past or future, only the present. Knowing that their work will be published helps young people develop a sense of the future, while their previously published works serve as a reminder of their past efforts.

"...publication...should not be used as a way of singling out the work of a few outstanding writers."

Graves (1983) points out that publishing should always be a part of a total writing program, not an end in itself, nor should it be used as a substitute for a writing program. Too, he stresses that publication is important for all students and should not be used as a way of singling out the work of a few outstanding writers.

Having students pursue writing activities such as those mentioned in the discussion of authentic writing activities not only makes writing meaningful but also gives them opportunities for writing to the needs of various audiences, which in addition helps them to understand better the many purposes of writing (Rhodes & Dudley-Marling, 1988).

Arrange the Classroom to Support Writing. The physical arrangement of the classroom contributes to maintaining and supporting a writing environment. Opportunities for mobility and flexibility are a must if some of the techniques that will be mentioned later in this chapter such as group work and conferencing are to be implemented (Graham et al., in press). An example of one classroom arrangement as described by Susan Stires (1988) involves seating students at round tables situated around the periphery of the room while using the center of the classroom to house a library, writing materials, and resources. Classroom walls may be covered by the art and writings of students as well as published authors.

Do Not Overemphasize Student Errors. As mentioned earlier, young people with learning problems frequently have negative self images about their abilities to write. Thus, special care must be given not to overemphasize these students' errors. Instead, an effort must be made to provide feedback that is supportive and encourages improvement (Graham, 1982; Graham & Harris, 1988b; Isaacson, 1987). Students should be praised generously and only provided feedback on aspects of their compositions for which they have received instruction (Isaacson, 1987). Graham and Harris (1988b) suggest that teachers concentrate on errors that occur often and obstruct the understanding of the text.

Instructional Techniques for Promoting Effective Writing

Assess Students Throughout Writing Instruction. Assessment should be used to determine a student's weakness, to individualize instruction, to monitor performance and to evaluate the effectiveness of an intervention (Graham, 1982; Graham, 1987; Isaacson, 1988). Clearly, assessment is critical at the beginning of a writing program, since results from such an assessment are necessary to design instruction that will meet the learning needs of students (Davis et al., 1987; Graham & Harris, 1987; Stein, 1986).

The issue of how to best assess students' writing has received increasing attention in recent years. While in the past the product of the writing effort was the subject for evaluation, increasing attention is now being given to examining students' knowledge of the writing process as well (Graham, 1982). Graves and Giacobbe (1982) suggest some questions a teacher could ask of students to assess their knowledge and use of writing processes. Questions prior to writing could include:

- What are you going to write about?
- How are you going to put that down on paper?
- How did you choose the topic?

After writing, students could be asked

- How did you go about writing the composition?
- What are you going to do next with the composition?
- What is your assessment of your writing product?

Observation also is an important means of

assessment (Isaacson, 1990; Rhodes & Dudley-Marling, 1988). Rhodes and Dudley-Marling (1988) identify factors that teachers should consider when using observation to obtain insights into students' writing behaviors. They suggest that teachers:

- conduct their observation of students' writing over time;
- consider the setting in which the observation occurs;
- when possible, supplement observations with audio and video tapes; and
- when necessary, ask students to provide clarification of some of their writing behaviors.

With respect to the actual evaluations of student writing products, teachers should consider several factors, according to Rhodes and Dudley-Marling (1988). These include:

- who initiated the writing, since students are more likely to produce their best writing when they initiate it;
- who chose the topic;
- how much was written;
- how much time was spent by students producing their products;
- whether students talked during writing or revealed their feeling through body language;
- whether students revised their writing;
- the audience for whom the writing was intended;
- the purpose of the writing;
- the coherency of the writing product;
- whether students appropriately used language structure;
- how effectively students used words;
- how written language compares to oral language;
- if the student's writing performance proved consistent; and
- what the writer knows about writing mechanics.

When evaluating students' writing products, it is important for teachers to keep in mind the area of writing that has been the focus of instruction and to tailor the assessment to that area (Isaacson, 1990). For example, development of writing fluency is usually the goal of instruction for beginning writers. Teacher assessments and feedback to students, then, should be concerned primarily with how the student is progressing in that area. In other words, teachers should establish a clear objective for their writing instruction and these objectives should guide teacher actions and comments (Isaacson, 1990).

Another evaluation method that has received attention in recent years is portfolio assessment, where a student's works are collected in a folder. By viewing a student's work over time, teachers can judge what progress has been made (Graves, 1983; Sunstein, 1990). Graves points out that the maintenance of writing folders is not only a valuable practice for helping teachers and students to see improvements in writing, but also for demonstrating students' progress to their parents and to school administrators (Graves, 1983).

Establish Writing Groups and Peer Collaboration. Small group work is frequently used in writing instruction as a way of helping students acquire the many skills and processes involved in composition (Bos, 1988; DuCharme, 1989; Englert et al., 1988a; Gere & Abbott, 1985; Graham et al., in press; Graves, 1983). Groups are thought to assist students to

- become more conscious of themselves as writers (Gere & Abbott, 1985);
- see writing as a problem-solving activity (Calkins, 1983; Graham et al., in press; Isaacson, 1988; Isaacson, 1990);
- strengthen their knowledge of writing processes and strategies (DiPardo & Freedman, 1988; Englert & Raphael, 1988; Graves, 1985);
- acquire necessary skills (Graham et al., in press);
- develop a sense of audience (Englert et al., 1988a; Graham et al., in press; Wansart, 1988);
- understand that writing is difficult for everyone sometimes and almost everyone needs help and suggestions (Wansart, 1988);
- see writing as a social, communicative process (Graham et al., in press).

It is believed that for peer conferencing to achieve these ends, it needs to become an integral and frequently used part of the writing instruction program (DiPardo & Freedman, 1988).

"...peer conferencing needs to become an integral part of the writing instruction program."

Teachers may find that students need some guidance in how to be a part of a writing group. Graves (1983) suggests that when groups are first formed, teachers model how to listen to another student and how to ask the type of questions that

will help the student improve his or her writing. It has been suggested that following the first meeting of small groups, students be brought together to discuss the experience and identify what types of responses were helpful and which were not (Brady & Jacobs, 1988). As young people gain more experience working in groups, they may require less monitoring. However, the teacher should be aware that problems may arise occasionally which, according to Brady & Jacobs (1988), are best solved by the group itself.

"The teacher's role should be an active, directive, facilitative and supportive one."

Collaborate With Students in the Learning Process. The role the teacher adopts in writing instruction can be instrumental in assisting students to learn to approach writing as a problem-solving activity (Isaacson, 1990). The teacher's role should be an active, directive, facilitative and supportive one (Newcomer et al., 1988b), thus the evaluative, judgmental aspects of teaching need to be deemphasized (Graves, 1985; Hull, 1989; Langer & Applebee, 1986; Scardamalia & Bereiter, 1986).

Teachers should guide students' planning and revision, help them understand the nature of writing, and teach them appropriate processes and strategies. Engaging in conferences with students is one way that teachers can function in a collaborative capacity (Calkins, 1983; Graves 1977; Graves, 1985; Rhodes & Dudley-Marling, 1988; Wansart, 1988).

Scaffolding is believed to be an important concept for teachers to consider when collaborating with students. The teacher needs to guide students in acquiring knowledge and skills and then gradually withdraw support as students take increasing responsibility for their own learning (Calkins, 1983; Harris & Pressley, in press; Hull, 1989; Langer & Applebee, 1986; Morocco, 1990). According to Graves (1983), six scaffolding components should govern teachers' conferencing with students. Specifically,

- students should be able to predict most of what will happen in the conference;
- during any one conference, only one or two areas should be the focus of attention;
- teachers need to demonstrate solutions to writing problems;
- students should have the option of asking questions and demonstrating their solutions to problems;
- teachers and students should develop a growing language to discuss the process and content of subjects; and
- conferences should be characterized by a sense of experimentation, discovery and humor.

A teachers will spend considerable time during conferences listening to students evaluate their own writing, discuss the processes they applied when producing the writing, and explaining the subject matter (Murray, 1982). Teachers also must be adept at questioning students. Graves (1983) discusses six types of questions that typically are asked by teachers during conferences:

- *opening* questions, used to begin a conference, may be as simple as "What are you writing about now?";
- *follow up* questions are intended to help the student keep talking and explain further his or her writing and any problems being encountered;
- *process* questions are intended to help students become more conscious of how they write and of the thinking that goes into writing: "How did you write this? Did you make any changes? What are you going to do next?";
- questions that reveal students' development tend to be *process-oriented* questions, as illustrated above. Students' answers to such questions, when compared over time, can provide evidence of their growth as writers;
- questions that deal with *basic structures* are those that help the student focus, reconsider major relationships in information, and look at fundamental issues in a writing piece. One such question is asking students what is the main idea;
- questions that cause a *temporary loss of control* are those that pose challenges for students to rethink some aspect of their writing and to do so on their own, outside the confines of the conference. In a subsequent conference, the student will be asked to share how he or she went about solving the problem.

Teachers who have little or no experience in working directly with students in conferencing often are unsure about how to begin a session, how to encourage students to talk, and how to lead them to see the problems in their writing even when they think no problems exist. Graves (1983) offers some advice about these areas of

common concern to the teacher. First, he suggests that the best way to start a conference is to concentrate on whatever the information is that the student has thus far provided and ask a question or questions that lead the child to provide additional information. Second, students can be encouraged to talk more by allowing them time to think about what they are going to say. Teachers should not feel the need to rush students into talking or to fill a lull in the conversation by talking themselves. Third, when the teacher disagrees with the student regarding the quality of the writing, the teacher should ask the child why he or she believes the piece is good. As Graves indicates, the student's response may provide a new perspective or even change the teacher's mind about the quality of the writing. If not, the teacher should then zero in on one problem area and ask questions that will lead the student to recognize and hopefully address the problem.

"...brief, frequently conducted conferences are more effective than long and less frequent ones."

Besides concerns related to the conduct of conferences, teachers may also worry about finding time for conferring with students, what to do with other students in the classroom while conferences are being conducted, and how to keep records of what transpires during the meetings. Graves (1983) once again offers advice. He provides a suggested schedule for conferencing with students during a thirty-seven minute class period. The first ten minutes of conferencing time is devoted to helping students who need immediate help; the next fifteen minutes is set aside for regularly scheduled conferences (each child, for example, would be assigned a day during the week for a regular meeting with the teacher); and the last twelve minutes would be spent with children who are at a crucial point in their composing and require special attention. Conferences conducted within the above timeframe are brief, but several educators have pointed out that brief, frequently conducted conferences are more effective than long and less frequent ones (Graves, 1983; Murray, 1982; Rhodes & Dudley-Marling, 1988).

While a teacher is involved in conferencing, his or her other students should be busy writing. Interruptions can be minimized if students have been provided instruction in how to address problems on their own, such as what to do when they cannot spell a word, think of the next thing to write, figure out the one thing the writing is about, or think of the next topic (Graves, 1983).

An easy way to keep records of conferences is by maintaining a notebook with a section for each child. For each conference the teacher notes the date, the title of the composition on which the student is working, the skill discussed, the rating of the overall quality of the conference and any other pertinent information (Graves, 1983).

Conferencing as described above frequently occurs in a one-on-one, teacher-with-student situation. When that is the case, it is important that the conference setting speak of collaboration, not confrontation. Teachers are urged to sit beside rather than across from students (Graves, 1983). Other conferencing options are possible also. The teacher may conduct a "roving conference" as he or she moves among students to question them as they start or end their writing. Group conferences involving a few students or the whole class also are possible (Rhodes & Dudley-Marling, 1988).

Fitzgerald (1989) provides guidance for teachers who wish to provide group conferences. After the teacher makes the writing assignment, a group consisting of four to eight students is formed. The students share their written pieces. After a student has read his or her composition, the teacher initiates discussion by asking three broad questions: What was the piece about?; What did you like about it?; Do you have comments, questions or suggestions? After the discussion, students are then given a chance to revise their works.

"...strategies and processes taught should be overtly and explicitly modeled to illustrate the procedures, thinking, and inner dialogue that accompany them."

Conferencing in some form is thought to be an important component of writing instruction because it brings the student and teacher into an interactive relationship which is essential for helping students develop their writing potential.

Model Desired Writing Behavior. Teachers should serve as a writing model in at least two ways. First, strategies and processes taught

should be overtly and explicitly modeled to illustrate to students the procedures, thinking, and inner dialogue that accompany them (Bereiter & Scardamalia, 1987; Bos, 1988; Englert & Raphael, 1988; Graham et al., 1987; Graham et al., in press; Hull, 1989; Isaacson, 1987; Isaacson, 1990). Wansart (1988) points out that teacher modeling of writing as a problem-solving behavior is particularly important because students see that writing is not a simple task, but instead, an array of "problems" that need to be encountered and worked through.

"By writing and being observed doing so, teachers clearly communicate that they value writing."

Graves (1983) provides an example of how a teacher could model how to select a topic for a composition. The teacher might list four possible topics and explain to students the process that he or she went through in choosing them. The teacher then would select one topic and explain why that choice was made and what he or she hopes to learn by writing about it. Students would then be asked to think about possible topics for their compositions. After a few minutes the teacher and the students commence to write about the chosen topics. Students who have not as yet selected a topic should be told to just write about anything and in time a subject will become apparent to them (Graves, 1983).

Teacher modeling also is important for another reason. Through their actions, teachers convey to students their true beliefs about the value of writing. By writing and being observed doing so, teachers clearly communicate that they value writing (Boynton, 1988; Brennan, 1988; Fear & Fox, 1990; Graves, 1983; Graves, 1985; Shook et al., 1989).

Connect the Teaching of Writing with Other Teaching. The teaching of writing should be integrated with other language arts instruction (DuCharme, 1989; Rhodes & Dudley-Marling, 1988). Shanahan (1988) believes that reading and writing should be integrated from the earliest grades and that writing instruction should not be delayed until children can read.

Other researchers stress the role of writing in learning and studying subjects throughout the curriculum (Atwell, 1990; Hittleman, 1978; Morocco, 1990). Writing is a powerful learning tool since it can be used to help students think though and make sense of issues (Kirby et al., 1988). For example, Morocco (1990) in Table One illustrates how writing activities can facilitate and encourage problem solving in science.

Hittleman (1978) advocates the use of thematic units as a way of meshing language instruction with instruction in other areas. These units are organized around specific themes or areas in which students have an interest, and a series of lessons is built around the unit. Rhodes & Dudley-Marling (1988) have remarked that thematic units may increase students' opportunities for reading and writing by having them read and write to explore a topic of interest to them. This may be particularly beneficial for students with special learning needs since it adds continuity to their instruction outside the resource room and gives a purpose to these students' writing activities.

Learning logs also have been suggested as a means to help students utilize writing as a part of the learning process in other subjects. Learning logs are notebooks that young people use throughout the whole school year to record a variety of information, thoughts, and observations in response to teacher prompts and questions (Atwell, 1990). Anne Thompson (1990) reports that her students maintain logs for social studies and science. The logs are reported to be particularly useful when researching topics for reports and compositions. Thompson directs students to make use of their logs at several points during their research efforts. When students need to focus their attention on identifying a topic for study in science, Thompson asks students to respond in their logs to questions such as, "What do I already know about this topic?"; "What do I want to learn?"; and "How can I go about learning about the topic?" Students also use their logs to take notes as they gather information, make visual representations of ideas, to organize and integrate their collected information, to write brief summaries, to brainstorm, to help remember and retrieve information, and to generate predictions, such as guessing what might happen on an upcoming field trip (Thompson, 1990).

Activities such as mapping, described in an earlier section, also can prove to be helpful when applied to teaching in other subjects. Laura Farnsworth, (1990), a teacher of third, fourth, and fifth graders with learning problems, reports using mapping when introducing units in science as a means to help her students overcome the rigidity

TABLE ONE

WRITING AS A PROBLEM SOLVING STRATEGY IN SCIENCE

Problem Solving in Science	Functions of Writing	Suggested Strategies
Surfacing preconceptions	▸ Stimulates recall ▸ Makes conceptions and misconceptions explicit	▸ Writing stories ▸ Producing lists and diagnostic questions ▸ Making analogies ▸ Recording opinion statements in notes ▸ Conducting peer interview
Organizing	▸ Highlights task features ▸ Points up areas of new information ▸ Develops sequence of action steps ▸ Facilitates asking for help	▸ Developing graphic organizers of major parts of task ▸ Producing checklists and schedules ▸ Maintaining daily running record ▸ Writing memos to teacher
Observing	▸ Focuses attention on relevant information	▸ Recording observations ▸ Taking notes ▸ Producing attribute lists ▸ Developing questions to guide reading, listening, and observation
Comparing/measuring	▸ Stimulates comparisons	▸ Producing attribute lists ▸ Recording results of peer interviews
Relating information	▸ Categorizes, chunks information ▸ Relates new and old information	▸ Producing attribute lists ▸ Writing monologues and dialogues
Making inferences/ predictions	▸ Facilitates leap from facts to inferences ▸ Links evidence with hypothesis ▸ Facilitates idea sharing with peers	▸ Dialoguing with peers ▸ Answering "what next" questions ▸ Writing hypotheses/ predictions ▸ Writing memos to teacher ▸ Writing explanations
Drawing conclusions	▸ Focuses child's attention on his or her own learning process ▸ Promotes conscious planning	▸ Producing research reports ▸ Keeping running log ▸ Reviewing log entries ▸ Listing writing strategies

Adapted from Morocco, C., Education Development Center, Inc. (1990). *The Role of Media and Materials in Teaching of Writing to Special Education Students.* Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

of thinking, a characteristic frequently observed among these young people. When starting a unit on weather, for example, she has students brainstorm a list of weather-related words. After writing the word "weather" in the middle of the page and then other words that students suggest around it, lines are drawn to illustrate relationships among the words. In subsequent lessons, words are added to the map and new relationships identified. Farnsworth remarks that this simple activity helps students understand and organize ideas.

Media and Materials Implications

Content-Related Suggestions. Over the years media and materials, particularly textbooks, have received considerable criticism for doing little to promote an understanding of writing processes (Graves, 1977; Hillocks, 1987). Researchers who have analyzed language arts textbooks have concluded that these texts primarily include activities and exercises devoted to grammar, usage, proofreading and editing (Bridge & Hiebert, 1985; Giacobbe, 1988; Shaw, 1985). Englert and her colleagues (1988a) have commented that writing instruction that only focuses on skills and worksheet-type activities does not guide students in sustaining their thinking--an important prerequisite for sustained writing.

Isaacson (1990) criticizes curricular materials from another perspective. He contends that texts frequently introduce many concepts simultaneously, often include too few or no examples of the concepts, and offer confusing definitions. For example, Isaacson says a text might define a sentence as a group of words that expresses a complete thought, present students with a phrase such as "His's old hat," and then ask students why this is not a complete thought. Isaacson (1990) also charges that exercises intended to reinforce concepts do not always do so. He cites the following example from a recently published text of an exercise intended to teach the difference between imperative and exclamatory sentences:

> Add words to each group of words below:
> Write imperative or exclamatory sentences.
>
> - Please keep your _____.
> - Look at _____.
> - What an exciting _____!

As is evident, the above example requires only that a word be supplied. The decision about whether a sentence is imperative or exclamatory has already been made by the publisher.

How could media and materials help teachers present needed content? Many teachers are unaware of the processes and strategies that are involved in effective writing activity, thus texts and other materials could be instrumental in providing professionals with information about the processes of writing and suggestions for how to lead students through those processes. Materials could

- include excerpts from articles or books that concisely present the key ideas from research and state-of-the-art practice (Schwartz & Shoemaker, 1990);
- contain a variety of suggested strategies and procedures that could be tried by teachers to assist students with specific writing difficulties (Hittleman & Moran, 1990; Isaacson, 1990; Morocco, 1990; Schwartz & Shoemaker, 1990);
- include sample lessons providing illustrations for how procedures and strategies could be taught and used in a variety of real writing experiences (Hittleman & Moran, 1990; Isaacson, 1990; Morocco, 1990; Schwartz & Shoemaker, 1990);
- incorporate reminders to teachers that strategy teaching is not an end in itself but rather needs to be integrated within the total writing instruction experience;
- provide examples for various ways to introduce, adapt and teach strategies to accommodate the learning needs of students with learning problems (Hittleman & Moran, 1990; Morocco, 1990; Schwartz & Shoemaker, 1990); and
- supplement print materials with video tapes showing teachers presenting strategy instruction and student reactions to the instruction (Schwartz & Shoemaker, 1990).

While materials can assist professionals to present instruction in strategies and procedures, resources can contain features to help students learn to plan, write and reflect upon their writing. Prompts, questions, or self-evaluation checklists have all been recommended as tools that could be incorporated into student materials. Activities and worksheets such as those used for mapping or webbing, described in the discussion above, also would be of assistance in reinforcing the teaching of processes to students.

Teacher guides can assist teachers to be more

knowledgeable about various writing genre and their features by incorporating background information and teaching suggestions. Through the inclusion of checklists or other prompts, materials can guide students to evaluate whether or not they have included the components of the genre in which they are working in their compositions. Too, models of exemplary and/or deficient genre pieces could be incorporated into materials for students to evaluate and analyze (Schwartz & Shoemaker, 1990).

Teachers need guidance in how to sensibly teach grammar and writing mechanics to students with learning problems. One suggestion offered is to include in materials mini-lessons for teaching an array of mechanical, spelling, or grammatical problems commonly encountered by students in need of special education (Isaacson, 1990; Schwartz & Shoemaker, 1990).

"...computers have the potential to facilitate students' application of writing strategies...."

Computers have the capacity to ease some of the difficulties students with learning problems frequently experience with writing mechanics such as handwriting. Students can be trained in keyboarding to produce text that is more readable than their handwritten compositions. Spell checkers and other revision features of word processing have been shown to stimulate students' spelling and mechanical revisions (Morocco et al., 1987). Thus by removing or minimizing physical and mechanical barriers to writing, students may be freed to concentrate more on processes that underlie the content of their writing (Dalton, 1989).

Besides easing the mechanical difficulties of writing, computers offer the possibility for incorporating prompts and procedures through on-line formats, and computer graphics, cartooning and drawing tools can help students generate ideas (Morocco, 1990). Thus computers have the potential to facilitate students' application of writing strategies as well as to be of assistance in helping minimize mechanical difficulties. It is believed that this type of assistance may help students with learning problems sustain their writing (Morocco et al., 1990).

Support for Instructional Techniques. Often texts and other materials present writing as a dull, dry, lifeless, even torturous undertaking. Media and materials have the opportunity to enliven writing instruction, to help motivate and excite young writers and to guide teachers as they establish a classroom environment conducive to nurturing the development of young people's written communication capabilities. The multiple purposes and reasons for writing can be illustrated throughout materials with samples from writing products of authors, known and unknown, adult and children. Videotapes of interviews with authors, particularly students writers, may be particularly effective in portraying writing as a fundamental, human activity.

Teacher guides could assist teachers to provide authentic and sustained writing activities by

- reminding teachers to engage students daily in sustained writing and to link writing assignments to societal or personal issues of concern to students;
- suggesting activities such as writing to the editor of the school or local newspaper, to a representative of the government or to a school administrator, preparing an article for publication in the school or classroom newspaper, and writing pro and con positions on issues (Schwartz & Shoemaker, 1990);
- including questions for the teacher to use to lead students to a consideration of the attitudes, beliefs, and information needs of the intended readers;
- containing suggestions for publishing student materials and ideas for how publication of student products could be facilitated by use of word processing (Graves, 1983); and
- incorporating sample lessons into teacher materials to illustrate how the above activities could be integrated into lessons.

Materials also could be helpful in providing guidance to teachers in how to smoothly manage their classroom writing program by offering tips on how to coordinate divergent activities such as whole-class and group instruction, teacher-student conferences, independent seat work and in how to chart student progress (Schwartz & Shoemaker, 1990). The guides could also include floor plans that illustrate options for arranging classroom furniture to support instructional features discussed later in this chapter (Schwartz & Shoemaker, 1990).

Textbooks have also been accused of ignoring research findings about effective writing instructional methods (Giacobbe, 1988). Brennan (1988) has commented that publishers, by what they do and do not emphasize in their materials,

seem to be saying that: students learn best in whole-group instruction; students must be taught skills over and over again; children learn through topic assignments with little choice; students need to know parts of speech to write and speak effectively; teachers should talk about writing but not write themselves; and evaluation should be based on workbook exercises and test that stress form over content.

Shaw (1985) believes that some commercial resources are beginning to reflect recent research findings about writing, but not all do; indeed, many materials are simply reworkings of those that in the past have actively interfered with writing instruction.

Once again, materials hold the potential for helping teachers to learn effective methods for teaching writing by providing direction within teacher guides or in a separate methods manual that would include background information and recommended activities for implementing the methods (Schwartz & Shoemaker, 1990). Areas in which materials could be particularly helpful in providing guidance to teachers include the following:

Assessment--Traditionally, emphasis in writing assessment has focused on the testing of grammar and mechanics. This emphasis in part may be traced to the uncertainty that teachers feel about making qualitative evaluations of their students' writing. Materials could assist teachers to make such judgement by including:

- checklists of questions that teachers could use in judging compositions (Schwartz & Shoemaker, 1990);
- reminders to teachers to limit their evaluations to those areas that have been taught and are in line with writing objectives (Isaacson, 1990); and
- charts that teachers could reproduce and use to monitor students progress (Schwartz & Shoemaker, 1990).

Writing groups. Materials could support peer conferencing and writing groups by providing:

- guidelines for how teachers should form and manage groups (Schwartz & Shoemaker, 1990); and
- activities that could serve as the focus for group writing activities such as the mapping exercise mentioned earlier (Morocco, 1990).

Teacher conferencing. Functioning as a collaborator in the learning process is a role that many teachers do not naturally assume. Materials could be helpful by:

- providing suggestions for how to help children with special problems (Hittleman & Moran, 1990; Morocco, 1990);
- incorporating examples of questions that are appropriate in specific situations; and
- demonstrating conferencing techniques through videotapes showing teachers engaged in conferences with groups or individual students (Fear & Fox, 1990; Schwartz & Shoemaker, 1990).

Modeling. Teacher modeling of the actions and thinking that occur during the various processes of writing is believed to be a particularly important teaching method for helping students to understand how to appropriately use writing strategies and procedures (Hittleman & Moran, 1990; Morocco, 1990). Materials could assist teachers by

- providing guidelines for modeling and examples of questions to ask students to gauge their understanding of the strategy and procedure being modeled;
- cautioning teachers against modeling in a rigid, mechanical, lock-step manner;
- illustrating effective modeling through video tapes (Hittleman & Moran, 1990; Schwartz & Shoemaker, 1990); and
- reminding teachers to write along with their students (Boynton 1988).

Integrating writing into other subject areas. Materials can play a major role in promoting the importance of writing in learning in all subject areas. Suggestions that have been offered for doing so include

- integrating reading, writing and oral communication into a single subject (Boynton, 1988);

- incorporating numerous writing activities and thought provoking questions within subject area materials as a means to encourage student thinking, discussion and learning (Morocco, 1990; Schwartz & Shoemaker, 1990);
- prompting teachers to use writing activities such as mapping to introduce units in science or social studies (Morocco, 1990); and
- producing writing "tool kits" that would contain guidelines such as those for use to write school reports. These guides could provide tips to students in areas such as how to select a topic, locate information, take notes, organize information, produce visuals to accompany the report and so on (Schwartz & Shoemaker, 1990)

Numerous suggestions have been offered for how computers can contribute to the use of the instructional techniques discussed above. The open, public screen and large print on a computer monitor promote teacher-student collaboration by making student writing accessible to the teacher. Teachers are able to view students' writing as soon as or shortly after the student produces it, and this feature encourages interaction between students and teachers (Morocco, 1990). In a similar manner, computers can provide a vehicle for collaborative writing activities among students. Computers may also be used by teachers to model writing processes (Morocco, 1990) and for various other activities. In Table Two, Morocco (1990) provides a listing of suggested ways in which computer applications may be of assistance in reinforcing writing instruction principles.

"The open, public screen and large print on a computer monitor promote teacher-student collaboration...."

The preceding discussion identifies ways classroom resources could assist teachers to provide writing instruction that emphasizes compositions. Education professionals are advised that the Information Center for Special Education Media and Materials maintains a database of information about media and materials that are useful in the instruction of students with disabilities. Media and materials have been identified that are reported to support composition teaching. While the Center does not evaluate the adequacy of these items, it does collect descriptive information intended to assist educators in locating appropriate classroom or professional education resources. Examples of database records are contained in Appendix B.

Conclusion

All of the above components are important elements of effective writing. Ideally, all should be incorporated into a writing program for students with learning problems, but in practice, however, the learning needs of specific students and constraints such as lack of time or other curricular demands may influence a teacher to emphasize some components over others.

The above discussion also presented some ideas for how media and materials could facilitate writing instruction. Most of the design suggestions offered focused on ways materials can guide the teacher to implement procedures and processes thought to contribute to successful composition instruction as opposed to recommendations for how student-oriented materials could be designed. These suggestions reflect two predominate beliefs: that writing instruction will improve only to the extent that teachers become aware of and implement effective methods for teaching writing, and that a greater emphasis in instruction needs to be placed on sustained writing activities for students, as opposed to worksheet-type exercises. Thus as Morocco (1990) states, classroom resources can be most effective by helping teachers understand the following:

- the writing problems of their students;
- the components of composing activities;
- the need for writing to occur in a supportive environment that includes interaction with other students as well as the teacher;
- the need for thoughtful assessment of writing processes as well as products; and
- the procedures and strategies that can be targeted to students to help them to become more effective writers.

Hopefully, the above suggestions will serve as criteria for school professionals desiring to evaluate existing resources or in purchasing new ones. Ultimately it is the responsibility of the school district and the academic community to demand appropriate materials and to refuse to

TABLE TWO

COMPUTER SUPPORT FOR EFFECTIVE WRITING INSTRUCTION

	Instructional Design Principles	Computer Support
1.	Create a writing environment in which students continually interact with each other and with the teacher around meaningful composing.	Public screen encourages sharing and reading aloud. Networking software links writers electronically.
2.	Embed writing strategies and writing elements in specific genre (letters, adventure stories, autobiographies, folk tales) as students are composing those genre.	Students easily revise writing, focusing on one revision element at a time.
3.	Model writing strategies in the whole class to promote students' gradual acquisition and independence in using the strategy.	Teachers can use a large screen to model writing processes.
4.	Provide repeated opportunities for students to engage in writing strategies with other students.	Collaborative writing on the computer provides practice.
5.	Provide students with specific procedures for collaborating in composing processes/strategies with other students.	On-line formats can provide procedures and prompt students.
6.	Provide students with visual and visualizing strategies for planning and organizing their thinking and writing.	Graphics and story studio software can stimulate ideas for visual learners.
7.	Take into account students' developmental abilities in teaching them writing strategies.	Graphic, cartooning, and drawing tools help with generating.
8.	Use media to promote student interaction and enhance the teachers' access to the students' writing needs and process.	Open screen makes writing accessible to teacher for early intervention.
9.	Assess students' writing needs and strengths throughout their composing process.	Networking tools provide teacher ongoing access to students' writing.
10.	Provide students with procedures for reflecting on their writing and their use of composing strategies in their own writing (metacognition).	Readable print makes writing more accessible for re-reading. Saving multiple drafts allows students to revise.

From Morocco, C., Education Development Center, Inc. (1990). *The Role of Media and Materials in Teaching of Writing to Special Education Students.* Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

purchase materials that do not facilitate the teaching of the instructional approaches they have made a priority (Shaw, 1985). Indeed, it has been suggested that an adoption committee or selection committee should look carefully at the activities presented on each page of a textbook under consideration (Giacobbe, 1988).

School personnel also need to exercise caution when considering use of word processing in writing instruction (Graham et al., in press). While features of word processing would seem to hold promise for easing some of the physical demands of writing that prove problematic for students in need of special education, computer use does not automatically lead to better writing behavior. For example, MacArthur and Graham (1986) found no major differences between the quality of the handwritten stories of students with learning disabilities and the ones these students composed on a word processor. And, too, the lack of availability of computers will be a drawback to making extensive use of word processing (Messerer & Lerner, 1989).

Graves (1977) points out that materials can do more to promote effective writing instruction, but they cannot do it all. Materials such as textbooks are but one of many tools to be used in the teaching of writing (Jensen & Roser, 1987). Whether or not students develop their writing capabilities depends mostly on how instruction is designed and implemented by teachers. And how instruction is presented is dependent on the attitudes, knowledge, and beliefs about writing held by teachers. The next chapter explores what teachers need to believe and know to foster thoughtful writing among students with learning problems.

CHAPTER SIX

THE ROLE OF THE TEACHER IN EFFECTIVE WRITING INSTRUCTION

Effective instruction in any subject area is dependent upon teachers. Thus, whether students with learning problems are led to become more effective writers depends upon their teachers' knowledge, attitudes, and behaviors. What teacher characteristics are thought necessary to implement the recommendations addressed in the last chapter?

Teacher Attitudes and Knowledge

Teachers must value writing and be willing to give it the priority it deserves in the curriculum (Graham et al., in press). They must engage in writing along with their students in order to demonstrate this value (Fear & Fox, 1990). Good writing teachers are aware of the necessity to expand their knowledge of the composition process (Stein, 1986), are professionally active (Davis et al., 1987), and assume a reflective attitude about the acts of teaching and learning (Scardamalia & Bereiter, 1985).

Teachers of writing need to assume an active, directive and facilitative role (Newcomer, 1988b), serve as a resource to students (Graham et al., in press), and view writing and its teaching as a problem-solving venture (Graves, 1985; Scardamalia & Bereiter, 1985; Shanklin & Rhodes, 1989).

Because students differ in their learning needs, teachers need to be flexible and try different approaches with different students. Thus they must be comfortable taking risks and exercising professional judgment (Myers, 1983; Shanklin & Rhodes, 1989).

The teacher must be willing to create a learning environment that is conducive to writing, where students are supported in their efforts to make connections among ideas and shape them into written expression (Kirby et al., 1988). Instructors must demonstrate a sensitivity to students' thinking about writing (Calkins, 1983) and assume that each student's writing performance has a history and a logic (Hull, 1989). Students need to be provided with several avenues for expression and offered a range of experiences for utilizing writing as a means of communication and expression (Shook et al., 1989).

Assumption of a *collaborative* rather than an *evaluative* instructional relationship with students is believed to be a key component for effective writing teaching (Hull, 1989; Kirby et al., 1988; Langer & Applebee, 1986). A collaborative learning arrangement can be facilitated through teacher-student conferences where the teacher assumes the role of learner and listens to students talk about writing (Fear & Fox, 1990).

Teachers also need specific knowledge to teach writing effectively. They need to be cognizant of writing processes, procedures and strategies (Newcomer et al., 1988b). They must be aware of how to pursue a scaffolding approach to instruction building an external support to guide students, then removing that support as students internalize the procedures being taught (Langer & Applebee, 1986).

For many teachers, adopting the above beliefs and attitudes and acquiring the necessary knowledge to teach writing effectively may require a dramatic departure from their current modes of teaching (Graham et al., in press). But teachers need to remember that learning to teach composition to students in need of special education takes time, and they should not try to do too much too soon (Graham et al., in press).

Teacher Education

The extent to which teachers will be able to acquire and employ the behaviors and knowledge associated with good writing instruction will depend upon the educational experiences they receive as they prepare to become teachers, pursue graduate work, and/or participate in staff development sessions. Unfortunately, many special education teachers have not been adequately educated in effective ways to teach writing (Fear & Fox, 1990; Graham et al., in press). Classroom resources have been criticized for perpetuating the type of writing instruction thought by many to do little to facilitate the development of thoughtful writing behavior, but Graves (1977) has pointed out that materials such as textbooks must fit the competencies of the professionals who use them and, in his opinion, most teachers are not prepared for the teaching of writing.

Acquisition by teachers of the knowledge and experience that would make implementation of effective teaching methods possible requires a multi-faceted approach that starts with availability of appropriate courses at the university level, extends to attendance at relevant professional seminars and inservice sessions, and includes observation of teachers who are successfully implementing effective methods.

What suggestions have been offered for improving professional education in writing instruction at the college level? First, more course work in writing instruction should be offered (Fear & Fox, 1990). A survey of 36 state universities preparing elementary teachers revealed that 169 courses were offered in reading, 30 in children's literature, 21 in language arts, and only two in writing (Graves, 1977). While this survey was conducted nearly fifteen years ago, it is unlikely that the number of writing courses offered at colleges and universities today comes close to equalling the number of reading courses. Second, the writing education courses offered should focus on information about writing processes, concept development, and the role of metacognitive behavior in writing (Roit & McKenzie, 1985). Third, college students should be taught how to teach writing by means of some of the same methods that they will be expected to use to teach writing. For example, writing conferences should be held between professors and students, and college students should be required to maintain portfolios of their written products (Fear & Fox, 1990).

Institutions of higher education through pre-service and graduate programs in education can play an important role in introducing young professionals to effective teaching methods in writing. But, as Bridge and Hiebert (1985) point out, college and university course work alone cannot be relied on to effect major changes in the way writing is currently taught in schools, considering the average age of teachers and that most already possess master degrees (Bridge & Hiebert, 1985). Inservice training must also play a major role in educating teachers. For without opportunities for renewal and revitalization, teacher effectiveness eventually suffers (Davis et al., 1987).

Until recently, relatively little training in process and strategy instruction approaches for composition instruction was available for school professionals. But the picture is improving. The NAEP writing assessment reported that 56.2% of eighth grade teachers said that they had received some training in writing through inservice (Applebee et al., 1990).

"...many special education teachers have not been adequately educated in effective ways to teach writing."

When inservice is provided, it is important that it not be a quick, one-shot affair, but rather a series of sessions presented over time, thus allowing teachers an opportunity to assimilate what they have learned and to try out the new approaches in the classroom. The content of the training should be similar to that provided through college and university course work. That is to say, it should center on topics such as writing processes, assessment methods, questioning skills, and effective methods.

Teacher education also needs to address fundamental belief about teaching and the role of the student in learning, if training in the implementation of effective teaching methods is to

have the maximum impact. Results of a study by Kathleen Fear (1990) illustrate this point. Fear analyzed the teaching behavior of elementary school teachers involved in a two year writing reform initiative that involved instructing them in how to incorporate into their teaching such processes as brainstorming, purpose setting, addressing audience needs, writing multiple drafts, revising, editing, and publishing of student writing.

"...administrators should encourage and facilitate the establishment of support networks...."

Fear found that the teachers trained to do so did engage their students in these activities, but the effect that such emphases had on student performance varied, depending upon how the teachers conceived of their role and the instructional decisions they made based upon this conception (Fear, 1990). Fear (in preparation) found that teachers could be categorized as externally or internally focused. Externally-focused teachers viewed their role as giving students procedures to follow to make writing easier. They attempted to reduce the complexity of a writing task by isolating criteria and decontextualizing rules. They agreed with the view that the teacher's role is to inform students of the rules and principles about language conventions (Fear, in preparation). Initial writing lessons presented by these teachers were often spent on demonstrations such as in how to set up a paper with margins and how to write complete sentences. Teachers often suggested topic sentences and gave minimum length requirements for the writing products. Most of the time set aside for writing during these first writing periods was devoted to teacher explanations. When students actually wrote, teachers would monitor their activities and remind them to follow directions that had been given.

In contrast, internally-focused teachers viewed students as being important agents in creating the context for instruction since they bring knowledge and experience to the learning situation. These teachers' instruction focused on the student's role as informants and self-evaluators (Fear, 1990). Writing lessons given by the internally-focused teachers devoted a minimum of time to teacher explanation. Instead, most of the lesson time was set aside for writing and was devoted to generation of ideas by students. Occasionally, when the situations required, the teacher would model a writing behavior for students (Fear, in preparation).

An analysis of student performance revealed that students of internally-focused teachers produced higher quality compositions and scored significantly better on measures of usage than did the students of teachers categorized as externally focused. Fear concludes that teacher conceptions obviously play a role in teachers' interpretation of the training they received and how they proceeded to implement it (Fear, 1990).

Supportive Teaching Environment

Teachers of students in need of special education who intend to modify their teaching to encompass a greater emphasis on composition require a supportive environment if their efforts are to succeed. Administrators can demonstrate their support by becoming knowledgeable about successful interventions, allowing teachers to take the time necessary to receive adequate training in their use, and providing opportunities for trained teachers to inform and educate their peers about effective writing instruction (Shanklin & Rhodes, 1989). Too, the administrators should encourage and facilitate the establishment of support networks among experienced teachers and those new to a teaching approach.

School administrators also can be instrumental in establishing closer working ties between the school system and institutions of higher education. Davis and her colleagues (1987) point out that some encouraging trends appear to be emerging in that regard. New alliances are being formed between university faculties and local school personnel furthering the infusion of effective methods into classroom practices.

CHAPTER SEVEN

CONSIDERATIONS AND CONCLUSION

Constraints to Implementing Effective Writing Instruction

While interest is increasing in improving writing instruction for students with learning problems as well as regular education students, several factors are constraining the adoption of more effective instructional methods. First, the daily class load of teachers is heavy (Davis et al., 1987). Establishing a writing program that requires students to compose frequently and the teacher to confer with students individually or in small groups takes time, more time often than is devoted to traditional instruction focusing on grammar and worksheets. Too, the overcrowded curriculum does not always allow the teacher who desires to teach composition the time to do so.

Second, tests used to evaluate student progress in language arts and school district requirements that emphasize traditional language arts curriculum skills can constrain composition instruction. Mosenthal (1989) has remarked, with reference to the establishment of whole language approaches in schools, that teachers are caught between a rock and a hard place. On the one hand, they are encouraged by higher education professionals to establish whole language programs: on the other hand, many school systems still make judgments about student progress based on results of standardized tests. This extensive reliance on standardized tests is seen as a constraint to the planning and establishing of a writing program because few standardized tests measure anything remotely related to composing (Brennan, 1988; Shaw, 1985). In addition, some school districts have established performance objectives that must be met for promotion from grade to grade or for graduation. If these objectives place emphasis on grammar and mechanical skills, which many do, then teachers will be unlikely to place less emphasis on these areas in their instruction.

The lack of knowledge of many teachers about effective means for teaching writing is a third impediment to effective writing instruction. Stein (1986) points out that to advance instruction in writing, teachers must understand how and what knowledge is needed during composing and the mechanisms that promote learning. But teachers for the most part are unaware of effective teaching methods (Graves, 1977; Isaacson, 1990), and one study casts doubt on whether aspiring teachers are being taught these methods as a part of their teacher education courses. Mosenthal & Englert (1987) found that college students showed little awareness of how to teach writing, did not perceive the importance of interaction in writing instruction, and believed that their involvement in their students' writing development would diminish over time.

Fourth, many teachers themselves do not value writing as an activity, nor do they enjoy writing (Graves, 1978). As Graves (1978) has remarked, seldom do people teach well what they do not like to practice themselves. The fact that elementary school teachers have had so little exposure to

writing instruction in their professional education programs may contribute to their lack of interest in writing (Graves, 1978).

Fifth, even when teachers do receive education and training in effective methods, their fundamental beliefs about their role as teachers and their students' roles as learners will influence how they apply instructional principles in the

"...the overcrowded curriculum does not always allow the teacher who desires to teach composition the time to do so."

classroom. Results from studies such as Fear's described in Chapter Six may help explain why an instructional method in widespread application may not prove to have the impact on student performance as would be expected. A case in point involves the process writing movement. The National Assessment of Educational Progress attempted to determine the impact of the teaching of writing processes on student performance by asking assessed students if they had received instruction in writing processes. Results indicate that there was little difference in the quality of writing of students who reported that their teachers encouraged process-related activities and those who had teachers who did not. However, the works of eleventh graders who reported engaging in planning, revising, and editing, whether or not they had been instructed to do so, were judged to be better than the works of students who did not (Applebee et al., 1986). Results such as these would seem to confirm the importance of the role of writing processes in the production of good compositions and lend support to teaching them. Yet questions can be raised as to why instruction in writing processes has not had a greater impact. As with any method thought to improve instruction, process approaches need to be thoroughly and appropriately taught, and perhaps that has not been the case (Applebee et al., 1986).

Future Directions

Many questions remain about what writing instruction methods work best with students in need of special education and what the appropriate curriculum for these young people should be:

- How do teachers determine if students are progressing (Newcomer et al., 1988b)?
- How unstructured can writing instruction be (Newcomer et al., 1988b)?
- To what extent is improvement in writing related to effective teaching techniques that stress modeling, practice and programming for generalization (Thomas et al., 1987)?
- What are the contributions of specific components of self-instructional strategy development in improving writing among students with learning problems (Graham & Harris, 1988a; Graham & Harris, 1989c)?
- How efficiently are strategies internalized by students with varying learning problems (Newcomer et al., 1988b)?
- How do the writing skills of students with learning problems develop (Graham & MacArthur, 1987)?
- What are the unique writing instruction needs of students with learning problems (Newcomer et al., 1988b)?
- What are the best methods for increasing the fluency and mechanical demands of writing and effectively circumventing these constraints when teaching composition instruction (Newcomer et al., 1988b)?
- What is the relationship among speaking, listening, reading, writing in the classroom (Mosenthal et al., 1981)?
- What are the effects of instruction on text structure on low achieving students' ability to control the structure of their writings (Englert et al., 1988c)?
- What are the effects and best uses of writing groups (Gere & Abbot, 1985; Newcomer et al., 1988b)?

Conclusion

Unquestionably more study is required to identify how writing can most effectively be presented to students with learning problems. Both strategy and process approaches deserve more research attention to determine how they can best be implemented, with what students, and in what settings. Yet several conclusions can be drawn from the knowledge that has thus far been gained from research and practice. Such conclusions include the following:

- Students in need of special education can be assisted in improving their composing capabilities through instructional approaches that incorporate either or both strategy or process approaches;

- To be effective, writing instruction must go beyond the teaching of mechanics and grammar and teach students the processes and strategies that underlie the composing act;
- Students learn best when writing is taught in a supportive, interactive environment where the teacher collaborates with the student in the learning process and peer grouping is used to offer advice and feedback;
- Teachers best demonstrate the value they place on writing by writing frequently themselves; and,
- Teachers need to be assisted in their efforts to improve the writing of young people in need of special education by being given opportunities to expand their knowledge of effective writing methods and techniques and by being encouraged to establish collegial support groups.

Students with learning problems often fail to develop their potential to communicate in writing when taught through traditional instructional approaches emphasizing grammar and mechanics. For them, writing in and out of school remains a dreaded, cumbersome activity. Strategy and process approaches, by emphasizing the multiple purposes, processes, thought-provoking aspects, and social nature of writing, while not ignoring the need for knowledge of skills and mechanics, hold the potential not just to improve students' abilities to communicate in writing but also to make writing a positive, meaningful, expressive experience.

APPENDIX A

1990 Instructional Methods Forum Participants

Edna Barenbaum, Ph.D.
Cabrini College
610 King of Prussia Road
Radnor, PA 19087
215-971-8351

Dr. Barenbaum serves as Coordinator of Special Education. Her research has focused on the study of the writing capabilities of children with learning disabilities as compared to nonlearning disabled students. She has authored or coauthored several articles related to writing by students in need of special instruction.

Angela Bednarczyk
Kendall Demonstration Elementary School
Gallaudet University
800 Florida Avenue, N.E.
Washington, D.C. 20002
202-651-5031

As a program supervisor at the Kendall Demonstration Elementary School, Ms. Bednarczyk is responsible for supervising the implementation of the school's curricula. Recently she oversaw the development of a preschool curriculum. Currently, Ms. Bednarczyk is conducting research involving the teaching of story grammar using strategy training methods.

Dana Blackwood
Fairfax County Public Schools
10700 Page Avenue
Fairfax, VA 22030
703-476-7003

Ms. Blackwood has taught in the Fairfax County Public Schools system for twenty-one years. She is a member of the Hutchison Elementary School's implementation team for the Elementary Integrated Language Arts Program and for the Elementary Writing Program--process approaches developed by the school system. She has a particular interest in the writing and the reading workshop concepts as developed by Nancie Atwell.

Robert Boynton
Heinemann-Boynton/Cook
70 Court Street
Portsmouth, NH 03801
603-431-7894

Mr. Boynton is a publisher and editor of Boynton/Cook Publishers, a division of Heinemann Educational Books. Boynton/Cook publishes writing, reading, and literature-oriented professional education books for secondary-level and college teachers and student texts in writing and literature. Mr. Boynton has served as a secondary school English teacher, department head, and administrator and as coeditor of thirteen high school English texts.

Bonnie Cullison
Montgomery County Public Schools
2197 McGee Way
Olney, MD 20832
301-774-1701

Ms. Cullison currently serves as a speech/language pathologist. For the past five years she has taught all academic subjects to moderately-to-severely language disabled students in a self-contained classroom. She is currently involved in a project studying the teaching of writing skills to students with language disabilities. Ms. Cullison is interested in further investigating the relationship of oral and written language and how intensive intervention in one area might have an impact on the other.

Barbara Danoff
Montgomery County Public Schools
3100 Regina Drive
Silver Springs, MD 20906
301-460-2170

Ms. Danoff is a resource teacher serving elementary-level learning disabled and at-risk youngsters. For her thesis research, she is investigating written language and strategy training using the plug-in resource model. Ms. Danoff is interested in exploring curriculum-based materials that students can use in the classroom.

Curt Dudley-Marling, Ph.D.
York University
4700 Keefe Street
North York, Ontario Canada M3J 1P3
416-736-5018

Dr. Dudley-Marling is on the Faculty of Education and works in the Graduate Program in Language and Learning Problems. His principal research and writing interests are oral language and literacy learning for children with learning problems. He has authored or coauthored numerous publications on topics related to the teaching of reading and writing. Examples include *Readers and Writers with a Difference* (Heinemann) and *Teaching and Learning Language in the Classroom* (to be published by Heinemann later this year).

Kathleen Fear, Ph.D.
Albion College
Carter Education Center
Albion, MI 49224
517-629-0320

Dr. Fear, a former elementary school teacher, is on the faculty of Albion College where she teaches courses in reading and writing methods and in integrating reading and writing into the content areas. She also serves as the Director of the Elementary Education Program at the Carter Education Center. Dr. Fear has an interest in teachers' thinking about and behavior when teaching writing. She previously worked with Drs. Englert and Raphael of Michigan State University on the Expository Writing Project.

Jill Fitzgerald, Ph.D.
University of North Carolina at Chapel Hill
037A Peabody CB 3500, UNC-CH
Chapel Hill, NC 27599-3500
919-962-5579

Dr. Fitzgerald teaches graduate and undergraduate courses in reading and writing. Her research interests center on the cognitive and affective processes of writing and reading and on classroom interventions that may improve individuals' writing and reading processes. Dr. Fitzgerald has published numerous journal articles including several that focus on the role of revision in writing. She is the author of several articles about the processes involved with and the teaching of writing. Prior to her involvement in higher education, Dr. Fitzgerald taught at the elementary school level.

Leslie Ford
Steck-Vaughn Company
PO Box 26015
Austin, TX 78755
512-343-8227

Ms. Ford is Vice President and Editor in Chief at Steck-Vaughn Company. She is in charge of all product development in Steck-Vaughn's three key areas--regular education K-12, special education/remedial education, and adult education. Prior to her involvement in publishing, Ms. Ford taught special education classes in Chicago and served as the Primary Specialist in an elementary school in Florida. She also has coauthored several products designed for use in special education.

Deborah Fox
National Council of Teachers of English
1111 Kenyon Road
Urbana, IL 61801
217-328-9645

Ms. Fox is the Administrative Assistant to the Executive Director of National Council of Teachers of English. She has served as a writer for the ERIC Clearinghouse on Reading and Communication Skills and as a high school English and theater teacher.

Steve Graham, Ed.D
University of Maryland
College Park, MD 20742
301-405-6493

Dr. Graham is on the faculty of the Department of Special Education at the University of Maryland. His current research interests include an examination of the factors that contribute to writing difficulties of students with learning problems. In addition, he is involved in a series of collaborative studies investigating the use of strategy instruction and process approaches to writing as a means of improving the writing of students with learning disabilities. In 1988, Dr. Graham and Dr. Karen Harris coedited a special issue of *Exceptional Children* that focused on written language instruction and research.

Anne Graves, Ph.D.
California State University--Sacramento
5317 T Street
Sacramento, CA 95819
916-278-7021

Dr. Graves is currently on the faculty of the Department of Special Education and Rehabilitation in the School of Education. In the Fall of 1990, she will join the faculty of San Diego State University where she will teach language arts methods classes in the teacher training program and continue her research on the writing of mildly handicapped youth. She has authored or coauthored several articles related to strategic approaches for teaching students with learning problems.

James Hargest
Administrative Assistant, Special Education
Harford County Schools
45 East Gordon Street
Bel Air, MD 21014
301-838-7300

Mr. Hargest, along with Dr. Carolyn Wood, Supervisor of Research, Testing, and Evaluation for Harford County Schools, and other district staff members, contributed to the development of two curricular guides that incorporate a learning strategies approach. Those guides are: *A Learning Strategies Approach to Functional Mathematics for Students with Special Needs* (1985) and *Teaching Writing to Students with Special Needs: A Learning Strategies Approach* (1988). Both Drs. Donald Deshler and Karen Harris served as consultants for the production of these guides.

Karen Harris, Ed.D.
University of Maryland
College Park, MD 20742
301-405-6488

Dr. Harris is on the faculty of the Department of Special Education. Her research interests include cognition and learning, cognitive strategy instruction, and written language. Dr. Harris has published numerous articles focusing on the teaching of writing to learning disabled youngsters, and she has explored the role of cognitive strategy instruction in the education of students with learning problems. In 1988, Dr. Harris with Dr. Steve Graham coedited a special issue of *Exceptional Children* that focused on written language instruction and research.

Daniel Hittleman, Ed.D.
Queens College/City University of New York
9 Lisa Drive
Dix Hills, NY 11746
516-271-1076

Dr. Hittleman is on the faculty of the Department of Educational and Community Programs. He teaches a variety of courses including those focusing on the adaptation of curricula for students in special education and regular learning environments and the teaching and learning of reading and writing. Dr. Hittleman is the author of several journal articles and books including *Developmental Reading, K-8: Teaching from a Whole-language Perspective* (3rd edition, Merrill Publishing) and is the coauthor of the instructional series *Strategies for Reading* (Allyn & Bacon).

Susan Hynds, Ph.D.
Syracuse University
170 Huntington Hall
Syracuse, NY 13244-2340
315-433-4755

Dr. Hynds is on the faculty of the Reading and Language Arts Center and serves as the Program Director of English Education and Director of the Writing Consultation Center. In 1984, her dissertation study was named a finalist for the NCTE "Promising Researcher" competition. Her current research explores the relationship between social understanding and response to literature, as well as the interpersonal dimensions of collaborative writing. Dr. Hynds is the coeditor of two forthcoming books: Developing Discourse Practices in Adolescence and Adulthood (with R. Beach) and Perspectives on Talk and Learning (with D. Rubin).

Stephen Isaacson, Ph.D.
Western Oregon State College
Monmouth, OR 97361
503-838-8738

Dr. Isaacson is on the Special Education faculty. His research interests include written expression and effective instruction. He has authored chapters on written language in college texts and numerous articles focusing on writing instruction, assessment, and the teaching of strategies. Dr. Isaacson gives presentations at district, state, and national conferences on research-based instruction in written expression and simple ways to assess written language.

Janet Katien
Science Research Associates, Inc.
155 North Wacker Drive
Chicago, IL 60606
312-984-7227

Ms. Katien is the Director of Development for the School Division of SRA. She has been with the company for twenty-three years and is responsible for product planning, development, and production. SRA publishes supplementary language arts materials for students in grades K-8. It also offers a direct instruction writing program for special education students. One researched and classroom-developed product soon to be published by SRA is *Writers at Work*.

Sheila Keenan
Scholastic, Inc.
730 Broadway
New York, NY 10003
212-505-3000

Ms. Keenan is a developmental editor in Scholastic's Instructional Publishing Group division and has most recently worked on a thematic, cross-curricular language arts program. She has also taught secondary school in Boston.

Nancy Latshaw
University of Pittsburgh
5R12 Forbes Quadrangle
Pittsburgh, PA 15260
412-648-7183

Ms. Latshaw is a graduate student researcher in the Department of Education at the University of Pittsburgh. She is working on a research project aiming to improve the academic and behavioral skills of emotionally and behaviorally disordered public school/middle school students. Ms. Latshaw has taught English through a focus on composition to high-school-aged juvenile delinquents and to seriously emotionally disturbed adolescents.

Alexandra Leavell
University of Miami
P.O. Box 248065
Coral Gables, FL 33124-2040
305-284-2903

Ms. Leavell is a doctoral student at the University of Miami in the Reading and Learning Disabilities Program. Her current research interests include the study of math word problem solving by learning disabled students, considerate and inconsiderate text analysis, and the effects of substantive and procedural facilitation on the writing of children with learning disabilities.

Charles MacArthur, Ph.D.
University of Maryland
College Park, MD 20742
301-405-6471

Dr. MacArthur is a Research Associate with the Institute for the Study of Exceptional Children and Youth. His major research interests include the cognitive and social processes involved in writing, application of the computer in writing and reading instruction, and the innovation processes involved in implementation of microcomputer programs in the schools. He has conducted research on strategy training in writing instruction and has published articles in numerous journals. He is the editor of *The Pointer*, a journal for special education practitioners.

Ann McCallum
Fairfax County Public Schools
3705 Crest Drive
Annandale, VA 22003
703-698-7500

Ms. McCallum serves as the Reading/Language Arts Coordinator for Fairfax County Schools. In this capacity she works with teachers from 127 elementary schools. Ms.

McCallum has served as president of the Virginia State Reading Association and the Greater Washington Reading Council and currently serves on the Board of Directors of the International Reading Association. She has been an elementary teacher, a high school reading specialist, and adult basic education teacher. Ms. McCallum has developed the Elementary Writing Program and National Council of Teachers of English writing videotapes.

Marjorie Montague, Ph.D.
University of Miami
P.O. Box 248065
Coral Gables, FL 33124
305-284-2891

Dr. Montague is on the faculty of the School of Education. Her research interests focus on cognitive and metacognitive assessment and instruction in the areas of narrative writing and mathematical problem solving for students with learning disabilities. She has recently published a volume in the series on educational computing titled, *Computers, Cognition, and Writing Instruction* (State University of New York Press). The book, which was written for both regular and special educators, provides an overview of composition theory and research and a model for computer-assisted composing instruction.

Mary Ross Moran, Ph.D.
University of Kansas
4001 Miller Building
39th & Rainbow
Kansas City, KS 66103
913-588-5951

Dr. Moran is on the faculty of the Department of Special Education. She has conducted research on the assessment of composing skills of secondary students with disabilities and is currently interested in the relationship between oral language status and early literacy. Dr. Moran has published numerous articles and book chapters focusing on various aspects of writing instruction and communication disorders.

Catherine Cobb Morocco, Ed.D.
Education Development Center
55 Chapel Street
Newton, MA 02165
617-969-7100

Dr. Morocco serves as the Associate Director of the Center for Family, School and Community at EDC. Currently Dr. Morocco is the Principal Investigator of the Middle School Technology Integration Project and a new four-year study of teacher planning in language arts. The latter project is identifying how teachers plan and adapt reading and writing instruction for special needs students in the mainstream classroom. She has published articles and book chapters on word processing and learning disabled youngsters and is the senior author of *Writers at Work*, a process-oriented writing program.

Beverly Moss
Post Oak School
Lansing Public Schools
2120 Post Oak Lane
Lansing, MI 48912
517-374-4414

Ms. Moss is a fifth grade teacher at Post Oak Elementary School. She has an advanced degree in the teaching of children who are mentally retarded. Ms. Moss was a teacher participant in the "Power Writing" research project conducted by researchers from Michigan State University.

Michael Pressley, Ph.D.
University of Maryland
Benjamin Building, Room 3304
College Park, MD 20742
301-405-2805

Dr. Pressley is on the faculty of the Department of Human Development. He has authored or coauthored numerous journal articles, book chapters and books in areas of children's learning, cognition, and memory. Examples include *Memory Development between Two and Twenty* (Springer-Verlag) and *Cognitive Strategy Research: Psychological Foundations* (Springer-Verlag).

Shirley Schwartz
University of Maryland
H.R.W. Benjamin Building
College Park, MD 20742
301-405-6474

Ms. Schwartz serves as the Project Coordinator of the Computers and Writing Instruction Project at the Institute for the Study of Exceptional Children and Youth. Her current research interests are in writing instruction, teacher training/staff development, development of curriculum materials and models for teaching writing to learning disabled students, and children's metacognitive development. She has coauthored several articles that focus on writing instruction for students with learning problems.

Marjorie Shoemaker
Zaner-Bloser Educational Publishers
1459 King Avenue
Columbus, OH 43216
614-486-0221

Ms. Shoemaker is the Senior Editor for supplementary materials at Zaner-Bloser and also serves as Subject Editor for all supplementary materials. Zaner-Bloser publishes handwriting, spelling, critical thinking, and early childhood materials and will be marketing materials for whole-language teaching. Prior to her work in publishing, Ms. Shoemaker taught reading courses at both the undergraduate and graduate levels at Bowling Green State University, University of Pittsburgh, Purdue University, and Syracuse University.

Diane Silver

Addison-Wesley Publishing Company
2725 Sand Hill Road
Menlo Park, CA 94025
415-853-2572

Ms. Silver is the Managing Editor for Reading and Language Arts in Addison-Wesley's newly formed Alternative Publishing Group. In that capacity, she is involved in acquiring and directing the development of new products. A variety of supplemental programs and single titles for use with special groups such as non-English speaking youngsters are being published by the Alternative Publishing Group. Ms. Silver has fifteen years of publishing experience and has developed materials in reading, language arts and social studies. Prior to her work in publishing, she taught English at the high school level.

Linda Stevens

Pennsylvania Resources and Information Center for Special Education (PRISE)
200 Anderson Road
King of Prussia, PA 19406
215-265-7321

Ms. Stevens is responsible for the selection of themes, content, and editing of the "PRISE Reporter," a newsletter distributed to approximately 30,000 special education teachers, administrators, psychologists, and counselors in Pennsylvania. She also serves as facilitator for a self-study project funded by the state of Minnesota, designed to provide building-level teams with best practices in assessment and instruction and coordinate special education compliance requirements with other school improvement projects.

Susan Stires

Center for Teaching and Learning
Box 602
Newcastle, ME 04553
207-563-1292

A former elementary resource room teacher, Ms. Stires is a consultant and trainer in the area of implementing a process writing approach. She serves as a Representative-at-Large for the National Council of Teachers of English. Ms. Stires has written several articles discussing the process approach and its use with students with learning problems. She is the co-founder along with Nancie Atwell of the Center for Teaching and Learning, an innovative school to open in the Fall of 1990 in midcoast Maine. She is currently editing a book for Heinemann.

Bonnie Sunstein

University of New Hampshire
106 Morrill Hall
Durham, NH 03824
603-862-2279

Ms. Sunstein is a Ph.D. Fellow in Reading and Writing Instruction at the University of New Hampshire. She conducts research and coordinates special projects for the Writing Process Laboratory. She also serves on the faculty of Rivier College in Nashua, New Hampshire. Ms. Sunstein has served as a secondary level teacher, a curriculum consultant to school systems and colleges, and an editorial consultant to fiction and textbook writers. For over twenty years she has served on affiliate boards of the National Council of Teachers of English. Ms. Sunstein has published numerous professional articles and personal essays.

June Thompson
E. Brooke Lee Middle School
18429 Wachs Terrace
Olney, MD 20832
301-774-6621

Mrs. Thompson has been a teacher in the elementary and secondary schools in Montgomery County, Maryland for 17 years. Since 1988 she has served as a reading resource teacher. One of her primary interests is pursuing the idea of an integrated curriculum or the reading/writing connection for English and reading. She has participated in the Computers and Writing Instruction Project conducted by Charles MacArthur of the University of Maryland.

Muriel Woodward
Oyster River Middle School
Durham, NH 03824
603-868-5895

Ms. Woodward is a resource room teacher and program coordinator for learning disabled students. She has participated in the University of New Hampshire summer writing program and has used the writing process to teach students with learning disabilities. Ms. Woodward also has taught "alternative English" to students with learning disabilities at the high school level. She has recently returned from Estonia where she used the writing process approach to teach English to Estonian secondary students.

U.S. Department of Education
Office of Special Education Programs Staff

Beatrice F. Birman, Chief
Research and Development Projects Branch
Division of Innovation and Development

Martin Kaufman, Director
Division of Innovation and Development

Doris Cargile
Education Program Specialist

Information Center for Special Education Media and Materials Staff

Victor Fuchs
Director

Carol Bianchini Daniels
Associate Director

Charles Lynd
Information Specialist

Karen Scheid
Research Specialist

Patti Sprouse
Database Specialist

APPENDIX B

SAMPLE RECORDS FROM THE ICSEMM DATABASE

-TITLE- WRITERS AT WORK
-AUTHOR- Catherine Morocco and Anna Nelson
-FORMAT- print: one teacher's resource notebook consisting of five instructional units with teacher materials, class record chart, assessment record chart, student activity pages (blackline masters), visuals, and posters.
-COST- $85.00
-READING- 4.0,5.0,6.0
-GRADE- 4,5,6
-INTEREST- elementary
-DESCRIPTION- This is an instructional material to teach language arts/writing with an emphasis on process writing, thinking skills, collaborative learning, and using computers in the writing process. It is designed for students at upper elementary levels and has been used successfully with students with learning disabilities at elementary levels. It is recommended for teachers interested in integrating a process approach into an existing curriculum.

Five instructional units are: Memorable Moments (personal narratives), Interesting People (human interest narratives), Fabulous Fables (creative writing, fiction), Intriguing Investigations (research reports), and Persuasive Print (persuasive, advertisements). Units are self-contained; they can be completed sequentially in any one grade or can be used as individual units across grades. Collaborative activities that encourage peer interaction, group interaction, and whole class disscussion are emphasized.

Each unit includes complete teacher materials for whole class lessons, conferencing and discussion strategies, intervention ideas for students with learning problems, and assessment techniques. Conferencing techniques, roundtable discussion guidelines, and strategies for providing additional support on an individual basis are included. All units integrate mini-lessons on writing instruction; these mini-lessons are stand-alone instruction and can be used interchangeably among units. Every unit has blackline activity pages to assist students with strategies and skills and blackline masters for teachers to use to create transparencies. Posters can be displayed in classrooms or resource rooms to provide visual cues about the stages of the writing process.
-APPROACH- learning strategies: writing process; direct instruction; collaborative learning
-EFFECTIVENESS- Research Background: This program is based on a four-year study, the EDC Writing Project, directed by Dr. Cathering Morocco at the Educational Development Center (EDC) in Newton, MA and funded by the U.S. Department of Education. Actual research was conducted by teachers with students in pilot classrooms

(4th grade) and field tested with reluctant writers and writers with learning disabilities. The authors worked in collaboration with teachers, language arts specialists, writers, computer specialists, and outside consultants. Author, Catherine Morocco, indicates that the product was designed to encourage extensive teacher-student and student-student interaction and collaboration.

For the EDC Writing Project, computers played an integral role in the classroom as a tool for writing, revising, recopying, sharing, etc. A preface for teachers entitled "Teacher To Teacher: Making Writing Happen," written by Vivien Troen, of Brookline, MA Public Schools introduces this curriculum. In it, she provides a list of recommended software programs--Word Processing: Bank Street Writer III (Scholastic), Magic Slate (Sunburst), and Electronic Ink (SRA); Spelling-Checker Programs: Bank Street Writer III (Scholastic); Graphics and Drawing Programs: Mousepaint (Claris), Dazzle Draw (Broderbund), Print Shop (Broderbund); Special Purpose Programs: Explore-A-Science: The Desert (D.C. Heath/W.K. Bradford), Survey Taker (Scholastic), PFS-Graph (Software Publishing Corp.).

Field-test: Prototype unit was field-tested in six Boston area 4-6 grade classrooms; parts of several other units were tested in 4-5 grade classroms. Publisher states that "Teachers with experience using a process approach will find many useful resources here, including a wealth of mini-lessons to teach important concepts, practical management suggestions, varied assessment tools, and suggestions for using computers to enhance the writing process."

Contact: Deborah Duffy (312) 984-7087 at SRA, 155 North Wacker Drive, Chicago, IL 60606.

-PUBLISHER- Science Research Associates, Inc. (SRA)
-ADDRESS- 155 N. Wacker Drive
Chicago, IL 60606
(312) 984-7000
-ALPHA- Science Research Associates (SRA)
-SOURCE- examination copy from publisher
-ACCESSION-
-CATALOG- 1990
-ALL- SPEDPROD
-END-

-TITLE- WRITING AND THINKING: A PROCESS APPROACH
-FORMAT- print curriculum: teacher manuals and consumable student books at six levels or teacher resource book with student blackline masters; transparencies for key pages of student books and Spanish blackline masters available; 16 thematic units for junior high/middle school include: student books and teacher manuals
-COST- $97.50, each teacher resource book; $15.00, each teacher manual (free when ordered with 25 copies of student book); $4.50, each consumable student book; $40.00, transparencies; $35.00, each set of Spanish blackline masters; thematic units: $15.25, each set of 5 student books and $7.95, each teacher manual (free when ordered with 25 copies of student book); implementation guide also available
-READING- 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0
-GRADE- 1,2,3,4,5,6,7,8
-INTEREST- elementary, junior high
-DESCRIPTION- This is an instructional program to teach language arts/writing organized by thematic units and with an emphasis on process writing, reading, critical thinking, and content areas across the curriculum. It is designed for students at elementary and junior high levels and is recommended for use with students with different learning styles, students with learning problems, or in classrooms with diverse learning abilities. Levels are designated by color rather than grade. The program incorporates process writing approaches and cognitive methods thought to be effective with special education and

learning disabled students. Spanish student pages are available for bilingual or ESL classes.

The basic program is comprised of outcome-based instruction--the goal of each unit is a product which is the result of a process. The program consists of thematic units which contain lessons which teach specific writing skills and related thinking strategies for developing ideas, choosing a topic and an audience (TAP: task-audience-purpose), planning the writing task (student writing models), drafting, revising/editing the composition (draft and response guides), getting peer and teacher feedback (response/conference guides and transcripts), proofreading and publishing (checklists and scoring guides).

Three types of units are incorporated at each level of instruction: journal (daily personal nongraded writing), group (collaborative learning approach), and individual (series of compositions in variety of forms to various audiences). Strategies for whole group instruction are provided at stages where student learning needs are similar and strategies for small group or individual instruction are provided at points where student needs may be different.

The junior high/middle school units feature a variety of writing types and individual units can be used independently or sequentially. Units are: In My Experience (Autobiographical Narrative), Reporter's Notebook (Journalism), Target Success (Explanatory), Food For Thought (Persuasive), What A Character (Writing About Literature), Near Miss (Fiction), Island Hopping (Research), Poetic License (Poetry), From My Point of View (Narrative), Make A Statement (Report Writing), Let Freedom Ring (Explanatory), Make A Change (Persuasive), I Just Read A Great Book (Writing About Literature), Lights Camera Action! (Script Writing), Be A Culture Vulture (Research), and Speaking Personally (Biography). Literature and content area connections are included to extend reading/writing connection to science, social studies, and other curriculum areas. Extension activities such as research reports are incorporated. Each unit contains a bibliography of books relate to the unit theme.

-APPROACH- learning strategies: process approach, whole language, cognitive strategies, collaborative learning, developmentally sequenced units; criterion-based evaluation

-EFFECTIVENESS- Background: Experienced teachers, most trained by the National Writing Project, contributed themes for Writing and Thinking which they had developed and used successfully in their own classrooms. According to the implementation guide, this program is designed to translate research on writing instruction into practical teaching procedures that are task-specific.

Field-tested: Field testing for this program occurred for a full year before publication with reported high teacher satisfaction and high student satisfaction. Writing units in this program are tailored to short instructional sessions of approximately 30 minutes that allows units to be completed in 3-5 weeks. Specific guidelines assist the teacher in integrating the program into the overall language arts curriculum and in preparing lesson plans.

Contact: Elena Wright, Charlesbridge Publishing, 85 Main St., Watertown, MA 02172; (617) 926-0329.

-PUBLISHER-	Charlesbridge Publishing
-ADDRESS-	85 Main Street Watertown, MA 02172 (800) 225-3214 (617) 926-0329 (617) 926-5270 FAX
-ALPHA-	Charlesbridge Publishing
-SOURCE-	Elena Wright nominated via IC-NET 12/90
-ACCESSION-	
-CATALOG-	1990
-ALL-	SPEDPROD
-END-	

-TITLE- IN THE MIDDLE: WRITING, READING, AND LEARNING WITH ADOLESCENTS
-AUTHOR- Nancie Atwell
-FORMAT- print: one 320 page paperbound book with appendices
-COST- $17.50
-INTEREST- professional
-DESCRIPTION- This is a professional material that focuses on teaching language arts/writing with an emphasis on collaboration between teachers and students in writing and reading. This book presents a classroom model and case study of one teacher working with adolescents in a classroom workshop setting. It is designed for middle and high school supervisors teachers of students at the intermediate, junior high, and high school level. Methods are suitable for use with special education or learning disabled students.

The book presents theoretical perspective but includes practical detail, including descriptions of mini-lessons, classroom organization, record keeping and evaluation procedures, conferencing techniques for implementing process writing in a workshop setting.

Contents are: Learning How To Teach, Making The Best of Adol cence, Getting Ready, Getting Started, Responding to Writers and Writing, Writing Mini-Lessons, Reading Workshop, Responding to Readers and Reading, Reading Mini-Lessons, Learning To Write from Other Writers, Five Stories.
-APPROACH- learning strategies: writing, process writing
-EFFECTIVENESS- Professional nomination: The June 1990 Instructional Methods Forum held in Washington D.C. by the Information Center for Special Education Media and Materials focused on teaching writing to students with special needs. The small group session that brought together publishers and practitioners identified a strong need for teacher training materials and teacher resource materials for teaching writing. This book by Nancie Atwell was highly regarded and highly recommended by the practitioners present who had used it as a foundation in elementary and junior high level classes and with learning disabled students.

Professional award: Awarded Mina P. Shaughnessy Prize in 1987. A portion of the citation recommends the book as "an instructive and inspiring model for teachers at all educational levels." Nancie Atwell is currently Director of Writing To Learn, a Project of the Bread Loaf School of English.
-PUBLISHER- Heinemann Boynton/Cook
-ADDRESS- 361 Hanover Street
Portsmouth, NH 03801-3959
(800) 541-2086
(603) 431-7840
-ALPHA- Heinemann Boynton/Cook
-SOURCE-
-ACCESSION-
-CATALOG- Professional Books for Teachers
-ALL- SPEDPROD
-END-

BIBLIOGRAPHY

Applebee, A. (1981). *Writing in the Secondary School: English and the Content Areas*. Urbana, IL: National Council of Teachers of English.

Applebee, A., Langer, J., & Mullis, I. (1986). *The Writing Report Card: Writing Achievement in American Schools*. Princeton, NJ: ETS.

Applebee, A., Langer, J., Jenkins, L., Mullis, I., & Foertsch, M. (1990). *Learning to Write in Our Nation's Schools*. Princeton, NJ: ETS.

Atwell, N. (1984, December). Having a writing conference with yourself. *Livewire*, 10-11.

Atwell, N. (1988). A special writer at work. In T. Newkirk, & N. Atwell (Eds.), *Understanding Writing: Ways of Observing, Learning, and Teaching* (pp. 114-129). Portsmouth, NH: Heinemann.

Atwell, N. (1990). Introduction. In N. Atwell (Ed.), *Coming to Know: Writing to Learn in the Intermediate Grades* (pp. xi-xxiii). Portsmouth, NH: Heinemann.

Avery, Carol. (1987). Traci: A learning disabled child in a writing process classroom. In G. Bissex, & R. Bullocks (Eds.), *Seeing for Ourselves* (pp. 59-75). Portsmouth, NH: Heinemann.

Barenbaum, E. (1990). *Strategy Training in Composing with Learning Disabled Children*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Barenbaum, E., Newcomer, P., & Nodine, B. (1987). Children's ability to write stories as a function of variation in task, age, and developmental level. *Learning Disabilities Quarterly, 10*, 175-188.

Bereiter, C. (1980). Development in writing. In L. Gregg, & E. R. Steinberg (Eds.), *Cognitive Processes in Writing* (pp. 73-93). Hillsdale, NJ: LEA.

Bereiter, C., & Scardamalia, M. (1982). From conversation to composition: The role of instruction in a developmental process. In R. Glaser (Ed.), *Advances in Instructional Psychology* (Vol. 2) (pp. 1-64). Hillsdale, NJ: LEA.

Bereiter, C., & Scardamalia, M. (1986). Levels of inquiry into the nature of expertise in writing. *Review of Research in Education* (Vol. 13) (pp. 259-282). Washington, DC: AERA.

Bereiter, C., & Scardamalia, M. (1987). *The Psychology of Written Composition*. Hillsdale, NJ: LEA.

Bos, C. (1988). Process-oriented writing: Instructional implications for mildly handicapped students. *Exceptional Children, 54*, 521-527.

Boynton, R. (1988, December). Somewhere over the rainbow: Textbooks and English classes. *English Education*, 206-214.

Bracewell, R. (1980). Writing as a cognitive activity. *Visible Language, 14*, 400-422.

Brady, S., & Jacobs, S. (1988). Children responding to children: Writing groups and classroom community. In T. Newkirk, & N. Atwell (Eds.), *Understanding Writing: Ways of Observing, Learning, and Teaching* (pp. 142-150). Portsmouth, NH: Heinemann.

Brennan, C. (1988). How to cover a language arts text. In T. Newkirk, & N. Atwell (Eds.), *Understanding Writing: Ways of Observing, Learning, and Teaching* (pp. 274-283). Portsmouth, NH: Heinemann.

Bridge, C., & Hiebert, E. (1985). A comparison of classroom writing practices, teachers' perceptions of their writing instruction, and textbook recommendations on writing practices. *Elementary School Journal, 86*, 155-172.

Calkins, L. (1983). *Lessons form a Child: On the Teaching and Learning of Writing*. Exeter, NH: Heinemann.

Christenson, S., Thurlow, M., Ysseldyke, J., & McVicar, R. (1989). Writing language instruction for students with mild handicaps: Is there enough quantity to ensure quality. *Learning Disabilities Quarterly, 12*, 219-229.

Dalton, B. (1989, November). Computers and writing. *Tech Use Guide: Using Computer Technology*. Reston, VA: Center for Special Education Technology.

Danoff, B. (1990). *Implementing a Writing Program with Youngsters with Learning Problems*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Davis, B., Scriven, M., & Thomas, S. (1987). *The Evaluation of Composition Instruction* (Second Edition). New York: Teachers College Press.

DiPardo, A., & Freedman, S. (1988). Peer response groups in the writing classroom: Theoretic foundations and new directions. *Review of Educational Research, 58*, 119-149.

DuCharme, C., Earl, J., & Poplin, M. (1989). The author model: The constructionist view of the writing process. *Learning Disabilities Quarterly, 12*, 237-242.

Englert, C. S. (1987). Writing disorders. In *Encyclopedia of Special Education* (Vol. 3)(pp. 1673-1676). New York: John Wiley and Sons, Inc.

Englert, C. S., Hiebert, E., & Stewart, S. (1985). Spelling unfamiliar words by an analogy strategy. *Journal of Special Education, 19*, 291-306.

Englert, C. S., & Raphael, T. (1988). Constructing well-formed prose: Process, structure, and metacognitive knowledge. *Exceptional Children, 54*, 513-520.

Englert, C. S., & Raphael, T. (1989). Developing successful writers through cognitive strategy instruction. In J. Brophy (Ed.), *Advances in Research on Teaching* (Vol. 1) (pp. 105-151). Greenwich, CT: JAI Press.

Englert, C. S., Raphael, T., Anderson, L., Anthony, H., Fear, K., & Gregg, S. (1988a). A case for writing intervention: Strategies for writing informational text. *Learning Disabilities Focus, 3*, 98-113.

Englert, C. S., Raphael, T., Fear, K., & Anderson, L. (1988b). Students' metacognitive knowledge about how to write informational text. *Learning Disabilities Quarterly, 11*, 18-46.

Englert, C. S., Stewart, S., & Hiebert, E. (1988c). Young writers use of text structure in expository text generation. *Journal of Educational Psychology, 80*, 143-151.

Englert, C. S., & Thomas, C. (1987). Sensitivity to the text structure in reading and writing: A comparison between learning disabled and non-learning disabled students. *Learning Disability Quarterly, 10*, 93-105.

Farley, J. (1986). An analysis of written dialogue of educable mentally retarded writers. *Education and Training of the Mentally Retarded, 21*, 181-191.

Farnsworth, L. (1990). In the schema of things. In N. Atwell (Ed.), *Coming to Know: Writing to Learn in the Intermediate Grades* (pp. 77-85). Portsmouth, NH: Heinemann.

Fear, K. (1990). *The Relationship between Teacher Conceptions and Student Perceptions and Performance in Writing*. Presentation at the American Educational Research Association Annual Meeting, Boston, MA.

Fear, K. (in progress). *An Examination of Differences in Teacher Conceptions Related to Practices in Writing Instruction.*

Fear, K., & Fox, D. (1990). *Report from Small Group 2.* ICSEMM Instructional Methods Forum, Washington, DC.

Fitzgerald, J. (1989, October). Enhancing two related thought processes: Revision in writing and critical reading. *The Reading Teacher, 43*, 42-48.

Fitzgerald, J., & Markham, L. (1987). Teaching children about revision in writing. *Cognition and Instruction, 4*, 3-24.

Fitzgerald, J., Spiegel, D., & Teasley, A. (1987). Story structure and writing. *Academic Therapy, 22*, 255-262.

Flower, L., & Hayes, J. (1981). A cognitive process theory of writing. *College Composition and Communication, 32*, 365-387.

Freedman, S., & Mcleod, A. (1988). *National Surveys of Successful Teachers of Writing and Their Students: The United Kingdom and the United States* (Technical Report No. 14). Berkeley, CA: Center for the Study of Writing.

Gere, A., & Abbott, R. (1985). Talking about writing: The language of writing groups. *Research in the Training of English, 19*, 362-385.

Gettinger, M., Byrant, N., & Fayne, H. (1982). Designing spelling instruction for learning disabled children: An emphasis on unit size, distributed practices, and training for transfer. *Journal of Special Education, 16*, 439-448.

Giacobbe, M. E. (1988). Choosing a language arts textbook . In T. Newkirk, & N. Atwell (Eds.), *Understanding Writing: Ways of Observing, Learning and Teaching* (pp. 253-273). Portsmouth, NH: Heinemann.

Graham, S. (1982). Composition research and practice: A unified approach. *Focus on Exceptional Children, 14*(8), 1-16.

Graham, S. (1987). Writing assessment. In *Encyclopedia of Special Education* (Vol. 3) (pp. 1671-1673). New York: John Wiley and Sons, Inc.

Graham, S. (1990). *Effective Writing Instruction for Special Education Students.* Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Graham, S., & Harris, K. (1987). Improving composition skills of inefficient learners with self-instructional strategy training. *Topics in Language Disorders, 7*(4), 66-77.

Graham, S., & Harris, K. (1988a). *Improving Learning Disabled Students' Skills at Generating Essays: Self-Instructional Strategy Training.* Presentation at the American Educational Research Association annual meeting, New Orleans, LA.

Graham, S., & Harris, K. (1988b). Instructional recommendations for teaching writing to exceptional students. *Exceptional Children, 54*, 506-512.

Graham, S., & Harris, K. (1989a). A components analysis of cognitive strategy instruction: Effects on learning disabled students' compositions and self-efficacy. *Journal of Educational Psychology, 81*, 353-361.

Graham, S., & Harris, K. (1989b). Cognitive training: Implications for written language. In J. Hughes, & R. Hall (Eds.), *Cognitive Behavioral Psychology in the Schools: A Comprehensive Handbook* (pp. 247-279). New York: Guilford.

Graham, S., & Harris, K. (1989c). Improving learning disabled students' skills at composing essays: Self-instructional Strategy Training. *Exceptional Children, 55*, 201-214.

Graham, S., & Harris, K. (in progress). Cognitive strategy instruction in written language for learning disabled students.

Graham, S., Harris, K., MacArthur, C., & Schwartz, S. (in press). In B. Wong (Ed.), *Learning About Learning Disabilities*. New York:Academic Press.

Graham, S., Harris, K., & Sawyer, R. (1987). Composition instruction with learning disabled students: Self-instructional Strategy Training. *Focus on Exceptional Children, 20*(4), 1-11.

Graham, S., & MacArthur, C. (1987). Written language of handicapped. In *Encyclopedia of Special Education* (Vol. 3) (pp. 1678-1681). New York: John Wiley and Sons, Inc.

Graham, S., & MacArthur, C. (1988). Improving learning disabled students' skills at revision essays produced on a word processor: Self-instructional Strategy Training. *Journal of Special Education, 22*, 133-151.

Graham, S., & Miller, L. (1980). Handwriting research on practice: A unified approach. *Focus on Exceptional Children, 13*, 1-16.

Graves, A. (1990). *Narrative Story Writing Research: A Summary*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Graves, A., Montague, M., & Wong, Y. (in press). The effects of procedural facilitation on story composition of learning disabled students. *Learning Disabilities Research*.

Graves, D. (1977). Language arts textbooks:A writing process evaluation. *Language Arts, 54*, 817-823.

Graves, D. (1978). *Balance the Basics: Let Them Write*. New York: Ford Foundation.

Graves, D. (1982). *A Case Study Observing the Development of Primary Children's Composing, Spelling, and Motor Behaviors during the Writing Process. Final Report*. Durham, NH: New Hampshire University.

Graves, D. (1983). *Writing: Teachers and Children at Work*. Exeter, NH: Heinemann.

Graves, D. (1985). All Children Can Write. *Learning Disabilities Focus, 1*(1), 36-43.

Graves, D., & Giacobbe, M. E. (1982). Questions for teachers who wonder if their writers can change. *Language Arts, 59*, 495-503.

Harris, K. (1990). *Self-Instruction Strategy Training--Summary Remarks*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Harris, K., & Graham, S. (1985). Improving learning disabled students' composition skills: Self-control strategy training. *Learning Disabilities Quarterly, 8*, 27-36.

Harris, K., & Graham, S. (1987). Improving learning disabled students' skills at generating essays: Self-instructional strategy training. Unpublished data.

Harris, K., & Graham, S. (1988). Self-instructional strategy training. *Teaching Exceptional Children, 20*(Winter), 35-37.

Harris, K., & Pressley, M. (in press). The nature of cognitive strategy instruction: Interactive strategy construction. *Exceptional Children*.

Hayes, J., & Flower, L. (1980). Writing as problem-solving. *Visible Language, 14*, 388-399.

Hayes, J., & Flower, L. (1983). Uncovering cognitive processes in writing: An introduction to protocol analysis. In P. Mosenthal, L. Tamor, & S. Walmsley (Eds.), *Research on Writing Principles and Methods* (pp. 207-220). New York: Longman.

Hayes, J., & Flower, L. (1986). Writing research and the writer. *American Psychologist, 41*, 1106-1113.

Hillocks, G. (1984, November). What works in teaching composition: A meta-analysis of experimental treatment studies. *American Journal of Education, 93*, 133-170.

Hillocks, G. (1987). Synthesis of Research on Teaching Writing. *Educational Leadership, 44*, 71-82.

Hittleman, D. (1978). *Developmental Reading: A Psycholinguistic Perspective*. Chicago: Rand McNally.

Hittleman, D., & Moran, M. (1990). *Report of Small Group 4*. ICSEMM Instructional Methods Forum, Washington, DC.

Hughes, T. (1978). *What the British Tell the U.S. about Writing and Reading*. Paper presented at the Third Great Lake Regional Conference of the International Reading Association, Cincinnati, OH. (ED 175020).

Hull, G. (1989). Research on writing: Building a cognitive and social understanding of composing. In L. Resnick, & L. Klopfer (Eds.), *Toward the Thinking Curriculum: Current Cognitive Research*. Alexandria, VA: ASCD.

Isaacson, S. (1987). Effective instruction in written language. *Focus on Exceptional Children, 19*(6), 1-12.

Isaacson, S. (1988). Teaching written expression. *Teaching Exceptional Children, 20*(Winter), 32-33.

Isaacson, S. (1989). Role of secretary vs. author: Resolving the conflict in writing instruction. *Learning Disability Quarterly, 12*, 209-217.

Isaacson, S. (1990). *Implementing a Writing Program for Students with Learning Problems*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Jensen, J., & Roser, N. (1987). Basal readers and language arts program. *Elementary School Journal, 87*, 374-383.

Kirby, D., Latta, D., & Vinz, R. (1988). Beyond interior decorating: Using writing to make meaning in elementary school. *Phi Delta Kappan, 69*, 718-724.

Knudson, R. (1989). Effects of instructional strategies on children's informational writing. *Journal of Educational Research, 83*, 91-96.

Langer, J., & Applebee, A. (1986). Reading and writing instruction: Toward a theory of teaching and learning. In E. Rothkopf (Ed.), *Review of Research in Education* (Vol. 13) (pp. 171-194). Washington, DC: AERA.

Leinhardt, G., Zigmond, N., & Cooley, W. (1980). *Reading Instruction and Its Effects*. Presentation at the American Educational Research Association Annual Meeting, Boston, MA.

MacArthur, C., & Graham, S. (1986). *LD students' writing under three conditions: Word processing, dictation, and handwriting*. Presentation at the American Educational Research Association Annual Meeting, San Francisco, CA.

MacArthur, C., & Graham, S. (1987). Learning disabled students' composing under three methods of text production: Handwriting, word processing, and dictation. *Journal of Special Education, 21*(3), 22-42.

McCutchen, D. (1986). Domain knowledge and linguistic knowledge in the development of writing ability. *Journal of Memory and Language, 25*, 431-444.

Messerer, J., & Lerner, J. (1989). Word processing for learning disabled students. *Learning Disabilities Focus, 5*, 13-17.

Montague, M., Maddux, C., & Dereshiwsky,. (1990). Story grammar and comprehension and production of narrative prose by students with learning disabilities. *Journal of Learning Disabilities, 23*, 190-197.

Moran, M. R. (1981). Performance of learning disabled and low achieving secondary students on formal features of a paragraph writing task. *Learning Disabilities Quarterly, 4*, 271-280.

Morocco, C. (1990). *The Role of Media and Materials in the Teaching of Writing to Special Education Students.* Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Morocco, C., Dalton, B., & Tivnan, T. (1990). *The Impact of Computer-Supported Writing Instruction on the Writing Quality of 4th Grade Students with and Without Learning Disabilities.* Presentation at the American Educational Research Association Annual Meeting, Boston, MA.

Morocco, C., & Neuman, S. (1986). Word processors and the acquisition of writing strategies. *Journal of Learning Disabilities, 19*, 243-247.

Morocco, C., Neuman, S., Cushman, H., Packard, D., & Neale, A. (1987). *Teachers, Children, and the Magical Writing Machine: Instructional Contexts for Word Processing with Learning Disabled Children.* Newton, MA: Education Development Center.

Mosenthal, J., & Englert, C. S. (1987). The beginning capacity to teach. *Remedial and Special Education, 8*, 38-47.

Mosenthal, P. (1989, April). The whole language approach: Teachers between a rock and a hard place. *The Reading Teacher, 42*, 628-629.

Mosenthal, P., Davidson-Mosenthal, R., & Krieger, V. (1981). How fourth graders develop points of view in the classroom writing. *Research in the Teaching of English, 15*(3), 197-214.

Murray, D. (1982). *Learning by Teaching: Selected Articles on Writing and Teaching.* Portsmouth, NH: Heinemann.

Myers, M. (1983). The relationship between the teacher and the researcher. In M. Myers, & J. Gray (Eds.), *Theory and Practice in the Teaching of Composition: Processing, Distancing, and Modeling.* Urbana, IL: National Council of Teachers of English.

Myklebust, H. (1973). *Development and Disorders of Written Language: Studies of Normal and Exceptional Children.* New York: Grune and Stratton.

National Council of Teachers of English. *How to Help Your Child Become a Better Writer.* Urbana, IL: NCTE.

Newcomer, P., Barenbaum, E., & Nodine, B. (1988a). Comparison of the story production of LD, normal achieving and low achieving children under two modes of production. *Learning Disabilities Quarterly, 11*, 82-96.

Newcomer, P., Nodine, B., & Barenbaum, E. (1988b). Teaching writing to exceptional children: Reaction and recommendations. *Exceptional Children, 54*, 559-564.

Nodine, B., Barenbaum, E., & Newcomer, P. (1985). Story composition by learning disabled, reading disabled, and normal children. *Learning Disabilities Quarterly, 8*, 167-179.

Raphael, T., Englert, C. S., & Kirschner, B. (1986). The impact of text structure instruction and social context on students' comprehension and production of expository text (Research Series No. 177). East Lansing: Michigan State University Institute for Research on Teaching.

Rhodes, L., & Dudley-Marling, C. (1988). *Readers and Writers with a Difference*. Portsmouth, NH: Heinemann.

Rieth, H., Axelrod, S., Anderson, R., Hathaway, F., Wood, K., & Fitzgerald, C. (1974). Influence of distributed practice and daily testing on weekly spelling tests. *Journal of Educational Research, 68*, 73-77.

Roit, M., & McKenzie, R. (1985). Disorders of written communication: An instructional priority for LD students. *Journal of Learning Disabilities, 18*, 258-260.

Scardamalia, M. (1981). How children cope with the cognitive demands of writing. In *Writing: The Nature, Development, and Teaching of Written Communication, vol. 2, Writing: Process, Development, and Communication* (pp. 81-103). Hillsdale, NJ: LEA.

Scardamalia, M., & Bereiter, C. (1985). Helping students become better writers. *The School Administrator, 42*(4), 16, 26.

Scardamalia, M., & Bereiter, C. (1986). Research on Written Composition. In M. Wittrock (Ed.), *Handbook on Research in Teaching* (pp. 778-803). New York: MacMillian.

Schwartz, S., & Shoemaker, M. (1990). *Report from Small Group 3*. ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Sedlack, R., & Cartwright, P. (1972). Written language abilities of EMR and non-retarded children with the same mental age. *American Journal of Mental Deficiency, 77*, 95-99.

Seidenberg, P. (1989). Relating text-processing research to reading and writing instruction for learning disabled students. *Learning Disabilities Focus, 5*, 4-12.

Shanahan, T. (1988). The reading-writing relationship: Seven instructional principles. *The Reading Teacher, 41*, 636-647.

Shanklin, N., & Rhodes, L. (1989). Transforming literacy instruction. *Educational Leadership, 46*, 59-63.

Shaw, R. (1985, February). Growing support for elementary school writing instruction. *Educational Leadership, 42*, 16-18.

Shook, S., Marrion, L., & Ollila, L. (1989). Primary children's concepts about writing. *Journal of Educational Research, 82*, 133-138.

Stein, N. (1986). Knowledge and process in the acquisition of writing skills. In E. Rothkoph (Ed.), *Review of Research in Education, vol. 13* (pp. 225-258). Washington, DC: AERA.

Stein, N., & Trabasso, T. (1982). What's in a story: An approach to comprehension and instruction. In R. Glaser (Ed.), *Advances in Instructional Psychology* (pp. 213-267). Hillsdale, NJ: LEA.

Stires, S. (1983). Real Audiences and contexts for LD writers. *Academic Therapy, 18*, 561-567.

Stires, S. (1988). Reading and talking: Special readers show they know . In T. Newkirk, & N. Atwell (Eds.), *Understanding Writing: Ways of Observing, Learning, and Teaching* (pp. 207-215). Portsmouth, NH: Heinemann.

Stires, S. (1989). Thinking throughout the Process: Self-evaluation in writing. In J. Jensen (Ed.), *Stories to Grow On: Demonstrations on Language Learning in K-8* (pp. 71-93). Portsmouth, NH: Heinemann.

Stires, S. (1990). *Implementing a Writing Program for Students with Learning Problems*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Sunstein, B. (1990). *Learning Disabilities and the Writing Process Approach*. Presentation at the ICSEMM Third Annual Instructional Methods Forum, Washington, DC.

Thomas, C., Englert, C. S., & Gregg, S. (1987). An analysis of errors and strategies in the expository writing of learning disabled students. *Remedial and Special Education, 8*, 21-30.

Thompson, A. (1990). Thinking and writing in learning logs. In N. Atwell (Ed.), *Coming to Know: Writing to Learn in the Intermediate Grades* (pp. 35-51). Portsmouth, NH: Heinemann.

Walmsley, S. (1983). Writing Disability. In P. Mosenthal, & L. W. S. Tamor (Eds.), *Research on Writing: Principles and Methods* (pp. 267-286). New York: Longman.

Wansart, W. (1988). The student with learning disabilities in a writing process classroom: A case study. *Reading, Writing and Learning Disabilities, 4*, 311-319.

Yates, J. (1983). *What Research Says to Teachers: Research Implications for Writing in the Content Areas*. Washington, DC: National Education Association.

Information Center

for SPECIAL EDUCATION MEDIA and MATERIALS

LINC Resources Inc.

4820 Indianola Avenue

Columbus, Ohio 43214

(800) 772-7372

(614) 885-5599

BEST COPY AVAILABLE